DOCUMENT RESUME

ED 201 650 TM 810 230

AUTHOR	Jones, Earl; And Others
TITLE	Evaluation of California's Educational Services to Limited and Non-English Speaking Students; Volume I, Final Report.
INSTITUTION	Development Associates, Inc., San Francisco, Calif.
SPONS AGENCY	California State Legislature, Sacramento. Office of the Legislative Analyst.
PUB DATE	Dec 80
CONTRACT	JLBC-78-1
NOTE	330p.; See TM 810 231 for Volume II; Executive Summary, Final Report and TM 810 232 for Volume III: Technical Materials, Final Report. Best copy available.
AVAILABLE FROM	Development Associates, 693 Sutter St., 3rd Floor, San Francisco, CA 94102 ($20.00 per copy).
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Ability Identification; Academic Achievement; Administrator Attitudes; Ancillary School Services; *Bilingual Education; *Educational Assessment; Educational Finance; Elementary Secondary Education; *Non English Speaking; Parent Attitudes; Participant Satisfaction; *Program Effectiveness; Program Evaluation; *Program Implementation; Research Design; State Programs; Student Attitudes; Student Placement; Teacher Attitudes
IDENTIFIERS	*California; *Limited English Speaking

ABSTRACT

Designed to assist California policy and decision makers with planning to meet the future educational needs of limited-English speaking (LES) and non-English speaking (NES) students, this study was undertaken: (1) to describe and analyze the implementation of all areas of the legislatively required services to LES/NES children, and the structures which support those services, particularly in terms of instructional strategies, financial resources and utilization, teacher preparation, and district policies; (2) to relate these implementation factors with measures of program effectiveness through analysis of student achievement and the satisfaction of students, parents, teachers, aides, and administrators with the bilingual instructional services, and thus determine the relationship between program implementation and impact on children and others involved in the program; and (3) to analyze procedures for the state and local language census of LES/NES children and examine the instruments used for placement, including the materials and procedures used to train test administrators and in the reporting of results. Volume I of this final report contains the full narrative and the more important tables. Volume II is the Executive Summary. Volume III contains the instruments, some technical explanatory materials, and many of the complex tables not included in Volume I. (Author/RL)

ED201650

DEVELOPMENT ASSOCIATES, INC.
MANAGEMENT AND GOVERNMENTAL CONSULTANTS
693 SUTTER STREET, THIRD FLOOR
SAN FRANCISCO, CA 94102
415/776-0120

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EVALUATION OF CALIFORNIA'S EDUCATIONAL SERVICES TO LIMITED AND NON-ENGLISH SPEAKING STUDENTS

VOLUME I

FINAL REPORT

Contract No. JLBC-78-1
December 1980

by

Earl Jones
Eliodoro G. Robles
Adolfo Munoz
Sarah Berkowitz

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Development Associates, Inc.
693 Sutter Street, Third Floor
San Francisco, California 94102

TM 810 230

ARLINGTON – 2924 COLUMBIA PIKE, ARLINGTON, VIRGINIA 22204 Cable Address: DAWASH 703/979-0100
ALBUQUERQUE – P.O. BOX 2128, 125 SECOND STREET, NW, ALBUQUERQUE, NEW MEXICO 87101 505/243-3537
DENVER – 1649 DOWNING STREET, DENVER, COLORADO 80218 303/831-0303
PHILADELPHIA – 1423A ROLLING GLEN DRIVE, BOOTHWYN, PENNSYLVANIA 19061 215/485-7959
WASHINGTON, D.C. – 1756 COLUMBIA ROAD, NW, 2ND FLOOR, WASHINGTON, D.C. 20009 202/387-2090

COLOMBIA – APARTADO AEREO 90260, BOGOTA, COLOMBIA, SOUTH AMERICA 271-0879
EL SALVADOR – APARTADO POSTAL 01-286, SAN SALVADOR, EL SALVADOR, CENTRAL AMERICA 503/22-5723
PHILIPPINES – 161 ROXAS BLVD., #304, BACLARAN, METRO MANILA, PHILIPPINES 011/63-2-828-73-46

ACKNOWLEDGMENT

Development Associates is indebted to many staff members of the sample school districts, students, parents, and community members for their cooperation in and providing data for this three year study. The guarantees of anonymity for the respondents prevents naming them but without their support, completion of the study would not have been accomplished. Similarly, staff members of many institutions gave guidance and furnished information: the several offices of the State Department of Education, many organizations of the Legislature, county and consortium education agencies, federal projects, and universities. While the number of persons is too extensive for inclusion herein, their assistance is gratefully acknowledged.

Development also wants to recognize the guidance and help provided by the Advisory Committee set up for this research:

Henry J. alton, Fontana Unified School District, Fontana, California
William Harvey, East Texas State University, Commerce, Texas
Marie Lee, Kai Ming Head Start, San Francisco, California
Charles Leyba, California State University at Los Angeles
Esther Tanori, San Jose 6unty dvisory Committee, San Jose, California

Additionally, the technical consultants from the California government agencies in Sacramento contributed important information, suggestions, and assistance in the formulation and conduct of several portions of the study. The final composition of the consultant team included:

James Browne, Senate Education Committee
Tom Burns, Assembly Ways and Means Committee
Robert A. Cervantes, Office of Bilingual Bicultural Education, State Department of Education
David Gordon, Office of Planning Research and Evaluation, State Department of Education
David Jolly, Assembly Ways and Means Committee
Gail Evans, Education Systems Office, State Department of Finance
Guillermo Lopez, Office of Bilingual Bicultural Education, State Department of Education
Cathy Minicucci, Senate Office of Research
Rita Mize, Assembly Office of Research
James Murdock, Assembly Education Committee

Further, through the three years, many other consultants from the agencies assisted for shorter periods: Joan Bissell, Janet Denton, Ann Frentz, T. Patrick Keegan, John McCoy, Gregg Geeting, and David Sweet. The reviews and suggestions by the government consultants are sincerely appreciated.

Special technical consulting was provided at important junctures of the research: William Theimer, Jr., Rodney Skager, Henry Torres Trueba, Richard Shavelson, James Fulton, Roy Gabriel, and William Padia. Without their expertise, the precision of the work would have been diminished. Important, too, were those consultants who lent their language skills to the work: Harry Bang, George Hsu, Eleanor H. Jones, Chuong Le, Anahid Hasmig Tashjian, and Stanton Tong. Robert Gilbert and Ken Kimbrow furnished expert assistance with the finance portions of the study. Thomas R. Dayton, Leticia Diaz-Sanchez, and Juliana D. Rodrigues contributed significantly to the research through their careful data collection. Tom O'toole, director of the computer center at San Francisco State University facilitated the arrangements for the use of the system. Special appreciation is noted for William Lautenberger, San Francisco State University, for his technical assistance at the computer center and his hard work on the statistical analyses.

Many Development Associates staff members conducted portions of the data collection and helped with the technical designs: Masako Tanaka, Joann Fiesel, Maritza B. Macdonald, Luis A. Hernandez, Tony Colon, Barry Wardlaw, Monica Scott, and Marlene Bernstein from the San Francisco office, and Ed Cervenka and Milton Goldsamt from the Arlington, Virginia, office. Robert Ferrell carried out many data storage and other management functions. Judith Earley provided much of the editing and report preparation work.

Finally, but most important of all, the two project officers for this study are recognized for their sincere concern, efforts to facilitate the work, and direct assistance with every phase of the study:

Rudolph S. Marshall
David Walrath

These officers, both on the staff of the Office of the Legislative Analyst, guided the research from its beginnings to its conclusion.

* * * * *

The work reported herein was carried out under contract to the Office of the Legislative Analyst, California Legislature, through Assembly Bill 65 funds. The results included and the conclusions reached are those of the researchers and do not necessarily reflect the opinions or policies of the school districts, or of the several California government agencies involved. No official endorsement should be implied.

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CHAPTER I: INTRODUCTION

Under a contract with the Office of the Legislative Analyst of the California State Legislature, Development Associates, Inc., a private governmental and management consulting firm, conducted an evaluation study of California's educational services to limited and non-English speaking students. This research project was initiated on March 1, 1978, in response to the legislative mandate of AB 65. Designed to assist policy and decision makers with planning to meet the future needs of LES/NES children, the study was undertaken for the following purposes:

1. To describe and analyze the implementation of all areas of the legislatively required services to limited and non-English speaking children, as contained in AB 1329, and the structures which support those services, particularly in terms of instructional strategies, financial resources and utilization, teacher preparation, and district policies.
2. To relate these implementation factors with measures of program effectiveness through analysis of student achievement and the satisfaction of students, parents, teachers, aides, and administrators with the bilingual instructional services, and thus determining the relationship between program implementation and impact on children and others involved in the program.
3. To analyze the procedures for the state and local language census of limited and non-English speaking children and examine the instruments used for placement, including the materials and procedures used to train test administrators and the reporting of the results.

In sum, the study sought to provide information on the relative effectiveness of different bilingual education approaches and to identify key program characteristics associated with successful programs. The study was focused on the identification of successful program implementation characteristics in order to provide the legislators and program planners with the information needed to improve the overall quality of services to limited and non-English speaking students in California. The research was pursued with the specific understanding that the design and final products of the evaluation would be developed so as to address the information needs of the California State Legislature, the Governor, the State Department of Education, and the Superintendent of Public Instruction, since these decision makers play a crucial role with respect to the development and direction of bilingual education in California. The State Department of Education assisted materially with data and information but the contract relationship and the control of the research was with the Office of the Legislative Analyst.

Legislative Guides and Directives*

The research was guided by the directives of the California Legislature in the form of Chapter 978, Statutes of 1976 (AB 1329), Chapter 894, Statutes of 1977 (AB 65), and succeeding legislation on bilingual education. AB 1329 furnished the first area of investigation by defining the required services to LES/NES students. The law provided specifically for classroom composition, certification criteria for teachers and aides providing instruction in bilingual cross cultural programs, the inclusion of community members in the efforts, and four types of instructional strategies to be employed. The pertinent provisions of this law were addressed throughout the study.

Assembly Bill 65 set forth the specific requirements of the study as follows:

> The evaluation shall examine, but need not be limited to:
>
> (a) The nature and extent of bilingual instructional services provided to limited- and non-English-speaking children, including an estimate of the financial resources from state, federal, and local sources to support bilingual instruction.
>
> (b) The nature, extent, and quality of census procedures at the state and local level in identifying limited- and non-English-speaking children as provided in Sections 52164 and 52103 of the Educational Code.
>
> (c) The extent and quality of in-service training programs for teachers and aides employed in the bilingual program.
>
> (d) District efforts to recruit, hire, and retain bilingual certificated personnel.
>
> (e) The effectiveness of alternative bilingual approaches including alternatives in staffing patterns, and the use of paraprofessionals.
>
> Effectiveness shall be measured by:
>
> (1) Student outcomes, including reading, comprehension, speaking, and computation skills in English and in the dominant language of the pupil to the extent assessment instruments are available.
>
> (2) The satisfaction of students, parents, teachers, aides and administrators with bilingual instructional services.

---

* *The Library of Congress system of references was used throughout the reports. The citations were listed alphabetically at the end of each chapter and they were referenced by their numerical sequence, e.g. (1).*

As is clear in AB 65 and elaborated further in the Request for Proposal (RFP), the evaluation was intended to provide policy and program relevant information regarding:

- The educational services provided to LES/NES students by California school districts, and
- The related services provided to the school districts through programs supported by the State of California and other sources.

According to information furnished at the Assembly Education Committee Hearing and conveyed to Development Associates by the Office of the Legislative Analyst on November 29, 1977, the examination of educational services in AB 65 was intended more specifically to describe the program characteristics that would identify actions necessary to improve the services to LES/NES children. Accordingly, the following major areas were to be studied:

- Instruction
- Program articulation
- District staffing practices
- Training for teachers and aides
- Support for bilingual education

Further guidance for the study added that the study design should provide:

- for the possibility that during the course of the study, newly identified policy questions would need to be incorporated and addressed; and
- for the possibility that the study would be continued on a longitudinal basis.

The California Legislature enacted Chapter 848, Statutes of 1978 (AB 3470), on September 18, 1978. One of the components of that bill involved the census procedures for determining the numbers of LES/NES students in a district. As that legislation changed the requirements of the language census from dominance in AB 65 to proficiency measurement, further research work on the census procedures ceased as of September 13, 1978, as a result of an agreement with the Office of the Legislative Analyst. Subsequently, an additional element was added to the research effort, namely the promising instructional practices substudy. This study involved a literature review of promising instructional practices and implementation characteristics of programs in order to empirically validate bilingual teaching practices. (The details of that modification to the study are contained in Chapter II.)

Following prolonged discussion of numerous bills on bilingual education, the California Legislature enacted Chapter 1339 of the Statutes of 1980 (AB 507), on September 30, 1980. The new legislation deleted the provisions of AB 1329 describing partial bilingual and full bilingual programs in favor of a basic bilingual program consisting of an English language development component and a primary language component for learning basic skills until pupils make the transition to English. It also provided for experimental programs which were to be either innovative or planned variations meeting the prescribed criteria. These programs included a secondary level language program, a secondary level individual learning program, and an elementary level individual learning program. The primary goal of all of them was to teach the pupils English.

The law also defined when the specific bilingual programs were to be implemented in a school. Thus, for every grade in which there were ten or more students of limited English proficiency, one of the defined bilingual programs had to be offered. For any school with fewer than ten pupils per grade, but a least twenty in the school, at least one instructional program and one cross cultural bilingual teacher were to be provided to the extent possible from existing funds. For any school with 45 pupils in this category, the district was required to provide two certified teachers. As a rule, the law required that all teachers and aides in the bilingual programs had to be certified as bilingual cross cultural, although the bill did authorize renewable two year waivers (later extended).

In addition to the existing requirement for the yearly census of limited English speaking students in the district, AB 507 also mandated an assessment to determine whether pupils were fluent in English or were of limited English proficiency. Further, assessment to determine primary language proficiency was to be completed 90 days after the pupils' enrollment. School districts were to establish reclassification criteria for transferring students from defined bilingual programs to English only classrooms. Except for specified provisions which would become operative on January 1, 1981, the provisions of the bill were to become operative on July 1, 1981.

Various sections and topics in this final report relate to the new concerns and policies contained in AB 507. The coverage on language dominance/proficiency, survey of instructional components in literature and instructional programs in the field study, satisfaction survey, pupil achievement data, report on auxilliary services, and finance substudy should provide particularly useful information.

General Study Procedures: Research Approach

The study objectives were defined in line with the provisions of the Chacon-Moscone Bilingual Education Act of 1976, the 1978 revisions, and the RFP. As originally constructed, the objectives were:

Objective 1: To describe the relationship between implementation characteristics of the educational services provided to limited and non-English speaking students.

The description was to include an assessment of strengths and weaknesses as a basis for identifying needed improvements and modifications, and to serve as a foundation for relating implementation characteristics to effectiveness.

Objective 2: To examine the relationship between implementation characteristics and program effectiveness.

This examination was intended to identify types and levels of program services associated with such effectiveness measures as student achievement and satisfaction with instructional services. The focus of the effectiveness analysis was at the elementary school level but some information was also collected on secondary programs.

Objective 3: To analyze the quality of state and local census procedures.

The analysis was to include an examination of materials and procedures used in administering and reporting the census, the language assessment instrument itself, and the overall quality of the state level data concerning the number of limited and non-English speaking students in California.

In approaching the issues related to this evaluation study, Development Associates proceeded from an understanding of the features of bilingual education that of necessity affect the analysis of such programs. These features included the major issues of definition, the influences of emotions and politics, and results of prior research and evaluation studies. With respect to goals and implementation processes, there is as yet no firm agreement on definitions and standards in the field. Also, the researchers were well aware of the emotional and political issues involved in the implementation of bilingual education. Very often, issues of pedagogical approach are discussed in such a politico-emotional context that separation of the two is difficult. The results of prior research and evaluation studies were also examined as a background to the present study. However, the inherent methodological difficulties of implementing scientifically rigorous evaluations of bilingual education are such that many of the earlier studies were not directly comparable.

During the study, specific topics related to each objective were identified. Accomplishing Objective No. 1, for instance, required definition of what characteristics were to be measured, from what sources the information would be gathered, what instruments or techniques would be used, and how data would be collected. Objective No. 2 called for identifying the attributes of successful programs as well as factors that hindered or facilitated the effectiveness of instructional practices. Factors related to effectiveness included the implementation processes, cost allocations, and other contextual factors. With respect to Objective No. 3, the issues involved determining standards and criteria for assessing the features of the census procedures, including instrumentation; selecting the measures suitable for conducting an independent assessment; and devising an appropriate sampling design for conducting the independent assessment.

As finally refined, the research approach incorporated features in the selection of measures, sampling design, choice of data sources, and analytic techniques designed to maximize the opportunities for obtaining interpretable findings. The most important features of the research strategy were:

- Baseline visits to obtain a clear view of bilingual program features, and more importantly, interrelationships.

- Input from Advisory Committee members and consultants at key design and instrument development points to enhance content and format quality.

- Careful purposive selection of a wide range of districts and schools so that various combinations of program features and antecedent conditions, such as primary language group, student mobility, or urban/rural community status, were built into the design; and district and school level issues could be related to effectiveness and suitability aggregated.

- Selecting fluent, limited, and non-English speaking students so that program exposure could be compared to non-program participation and extent of gain could be examined among the three groups.

- Using both elementary and secondary schools to determine if gains were more substantial at the more extensively implemented elementary school levels.

- Using measures of effectiveness related to program goals which provided indicators from students, teachers, aides, and administrators which could be compared across sources to obtain a consensus.

- Obtaining implementation information from written materials, group and individual interviews, and classroom observations.

instruments were also reviewed by a supervisor, with correction procedures carried out by a return visit, letter, or the telephone.

- All instruments, after review, were logged into a special system to insure the completion of the entire set as detailed in the research plan; the instruments were then stored logically.

Throughout the study, emphasis was placed on developing instruments that were concise and economical to administer. Following standardized procedures, Development Associates utilized the services of field data collection specialists, carried out interviews in the preferred language of the respondent, and guaranteed the anonymity of responses. The scrupulous adherence to the entire set of procedures made it possible to conduct the research as planned; any unexpected deviations from the plan were subjected to the same set of reviews and field testing before incorporation into the methods utilized.

The specific data collection instruments used in the study were:

1. Program Identification and Characteristic Guides; Structured interview guides for administration to district personnel, which gathered descriptive information on key program characteristics, goals and emphases, instructional practices, program articulation, and curricula.

2. Administrator-Member, Advisory Committee Opinionnaire: Structured interview guide dealing with the role of the school bilingual advisory committee and opinions on the subject.

3. Teacher, Aide, and Administrator Guides: Structured interview guides which gathered information on school and teacher/aide characteristics, including staff training activities.

4. Satisfaction Opinionnaires: Separate forms were prepared for student, parent, community member, and staff in English with parallel versions in Spanish, Tagalog, Ilocano, Chinese, and Japanese.

5. Classroom Observation Instrument: Framework for conducting independent observation in selected classrooms to document classroom compositon, language of instruction, curricula employed, instructional material, and program exposure.

6. Financial Resources Guide: Structured interview guide to gather mainly district level information about the state, federal, and local funding sources used to provide instructional services to LES/NES

- Using appropriate indicators so that the type of outcome measure (achievement, satisfaction or behavioral) indicating impact could be pinpointed, rather than using "fuzzy" generalized measures.

Statistical techniques such as cross tabulation, analyses of variance, and stepwise regression were used to determine the relative importance of particular implementation features to effectiveness levels. Qualitative approaches to capsulize patterns of data such as obstacles to and facilitation of implementation were employed.

Instruments

The information gathered from the school officials and the teachers was invaluable for the data they presented, for the shaping of the classroom observation instrument, and for followup interviews and supplementary data.* A rigorous development procedure was adopted and implemented for every instrument and that procedure contributed, in large part, to the utility of the information gathered. While the specifics for each type of data collection are described elsewhere, the same general procedure was followed in each instance:

- An exhaustive study was made of the literature pertaining to each type of data; descriptive information about collecting these data and studies that had implemented the information were searched.
- A draft of the instrument was prepared and subjected to internal scrutiny by the Development Associates staff.
- The draft version was then taken to the field and reviewed with practitioners and specialists.
- The amended draft was then submitted to the Advisory Committee and Technical Consultants.
- When changes were thereafter made, the draft was again field tested.
- A data collection guide was prepared and the field staff was trained carefully, including a set arrangement for resolving problems and anomalies.
- A detailed review of the instruments completed was required of each data collector; subsequently, the

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* *The instruments were presented in the several interim reports and are also included in Volume III, Technical Materials, of this final report.*

students, the types of services provided through each of the funding sources, and the relationship of these instructional services to the identified needs of the LES/NES students.

7. Literature Review Gjudes: Three recording guides were utilized for the promising practices sub-study which partially replaced the census study.

8. Special Data Guides: This consisted of interview lists for sample schools, sample data recording sheets, code lists for data recording sheets, checklists for school sites, and requests for language interview assistance.

Figure I summarizes the principal methods used in examining the implementation characteristics of the program and the financial resources used to support bilingual education services. As may be noted, multiple techniques were used such as structured interviews, survey questionnaires, direct observation, document review, and review of school district test data. Whenever it was possible to meet data collection needs through the use of secondary sources, those were utilized in order to minimize demands on district and school personnel.

The Samples

The sampling plan was multi-staged and purposive. The districts were first chosen after a careful study of their characteristics and a tentative selection was reported in spring 1978. Since changes were to be expected between academic years 1977-1978 and 1978-1979, the final selection was made in fall 1978.

Three of the tentative sample districts declined participation in the study. In consultation with the Office of the Legislative Analyst, replacements were chosen that presented similar characteristics. Two of the districts in the final sample restricted the interviews that could be conducted, although other data were to be made available. The restrictions primarily applied to teacher and some administrator interviews and to classroom observations. While the losses were regretted because of certain program characteristics present in those districts, they did not reduce the generalizability of the study data.

The rationale for a purposive rather than a probability sample rested on the judgment that it was the only way, given the limited resources available, to assure that the evaluation results would be based on what key persons intuitively accepted as representative of bilingual education in the state. Given the relatively small number of districts and schools which coiuld be involved, there was a danger that purely random procedures would yield a sample too heavily weighted toward some groups, practices, or areas, or that it might be totally devoid of some scarce but

Summary of Data Collection Methods in Examination of Implementation Characteristics and Financial Resources

METHODS	PRIMARY SOURCES			SECONDARY SOURCES			
STUDY DIMENSIONS	Interview	Survey	Observation	Classroom Materials	District Reports	District Test Data	Dept. of Ed. Data
1. Educational Services							
Program Identification							
. Goals & Emphases	○		○	○			
. Instructional Strategies	○		○	○			
. Funding Source Program	○				○		○
. Languages	○			○	○		○
Program Articulation							
. Curricula	○		○	○			
. Materials	○		○	○			
. Assessment Of Student Progress	○			○	○	○	
. Exposure	○		○				
. Classroom Composition	○		○	○			
. Instructional Setting			○	○			
. Evaluation	○				○		
District Staffing Patterns	○				○		○
Training For Teachers And Aides	○	○	○				○
Support For Bilingual Education	○	○					
2. Financial Resources							
. Documentation of Financial Resources	○				○		○
. Effects of Changes in State Funding	○	○	○		○		○
. Differences in Resource Types	○		○				○

Fewer programs were found at the junior high (intermediate) and high school levels. Almost invariably, then, the percentage of representation of the sample to the total substantial services to LES/NES pupils was greater than 25%. In nearly every instance, the schools with more pupils enrolled in bilingual or English as a second language were chosen, again increasing the sample size. Without these choices, the program characteristics and effectiveness data would not have been sufficiently representative for adequate analysis and/or description. In general, then, the school samples were selected to obtain a balance of grades, languages, socioeconomics, funding sources, and program experience.

Phases of the Study: Data Collection

For purposes of planning, the evaluation study was divided into three chronological phases. The first contract phase was seven months and was primarily devoted to the preparation and refining of the study design as already discussed. Both the Advisory Committee and Technical Consultants Committee were selected, instruments for the study of implementation characteristics were developed, and one visit was made to each of the selected school districts for the purpose of collecting baseline data.

The second phase spanned a full year and was devoted to the initiation of the census substudy (with its subsequent revision on August 10, 1978), gathering implementation data at the selected schools, and finalization of plans for the collection of effectiveness data. The third and final phase of the study, comprising 15 months, was devoted to gathering effectiveness, implementation, and satisfaction data, investigating the relationship between implementation characteristics and effectiveness, analysis of data, and preparation of the final report. Visits were again made to each school district during this phase and implementation and effectiveness data were obtained through review of school records, interviews, classroom observations, and surveys of administrators, other school staff members, students, parents, community members, and members of school advisory committees.

To recapitulate, site visits and data collection were conducted in spring 1978, spring 1979, fall 1979, and spring/summer 1980. The last visit was primarily devoted to completing the collection of spring data on student achievement across the three year period. (A full explanation of the approach, design, instruments, data collection procedures, and analysis techniques used in the study is included in *Volume III* of this final report.)

Analysis for the General Study

The analysis for the study of services to limited and non-English speaking students in California focused on the major areas of research already discussed, namely:

important examples (e.g., certain language groups). Since the purpose of the evaluation was to provide information that policy makers would judge valid and practical, the consideration of representativeness was of great importance.

Language Programs

Differences among language programs related not only to the specific instructional needs for linguistic development, but also to the availability and sophistication of teaching/learning materials for specific language groups. Further, there would be differences in the amount of supplemental literature available for certain languages as well as in the amount and depth of culturally specific materials adaptable for classroom use. Given these considerations, the study sample was chosen to include as wide a spectrum of language groupings as possible. The school district sample was planned primarily to take into account the variables of numbers of LES/NES, program experience, geographic location, size of district, urban/suburban/rural, and adequate representation of the three largest language programs: Spanish, languages of the Philippines, and the languages of China. Further, when other variables demonstrated adequate representation, districts were chosen that provided programs for as many languages as possible. Finally, within each district, sample schools and sample classrooms were chosen with this same consideration in mind.

School and Program Distribution

During the winter of 1979, descriptions of the schools were obtained through contacts with district personnel. After careful study of these, together with an examination of the socioeconomic and ethnic characteristics of the residential area from which the pupils were drawn, conferences were held between the Development Associates and district staffs to make the final choices of sample schools. In most cases, school principals and bilingual coordinators were also consulted to determine their willingness to participate in the research.

The school sample as finally drawn was comprised of 45 elementaries, 21 secondaries (junior and high schools), and five special programs for a total of 74 sites located in 15 districts distributed throughout California. One classroom was chosen from each grade in which a bilingual or formal ESL class existed in each sample school (resulting in more classes in some schools since both a bilingual and a separate ESL class existed at the same grade level in a few). The elementary schools in the sample represented approximately 25% of the districts' schools with bilingual programs. Some variation occurred when a small number of schools existed; in those districts the percentage was higher. In others, because of the need to maximize the number of language programs and to include federal, state, and local funding, the percentage was also higher.

1. A substudy of the language census procedures conducted in modified form to accommodate changes in the legislation, and reported in *Interim Report III*.

2. A substudy of promising bilingual instructional practices reported in the literature which partially replaced the language census substudy in August, 1978; the initial literature review was in *Interim Report IV*.

3. A substudy of the support to bilingual education through the financial resources made available from local, state, and federal funds, and the distribution of those funds to the actual services to LES/NES students.

4. The main body of the study consisting of collected data on the students in the sample classes, schools, and districts:

    a. grade
    b. primary language
    c. English proficiency classification
    d. approximate socioeconomic status
    e. achievement scores from standardized English language examination
    f. achievement scores from standardized primary language examination when available, and
    g. ratings of satisfaction with the services provided, included in *Interim Report V*.

Items f and g comprised the student effectiveness variables. An additional dimension of effectiveness was gathered through ratings of satisfaction with services obtained from samples of administrative staff, teachers and aides, parents of students, and community members.

Overall, the study analyzed bilingual education in California in terms of the following components:

CONTEXT (state, district, community, liaison agencies) that provide resources for the

FACILITATION (administration, resource staff, teaching staff) that allows the appropriate designs and implementation of

PROGRAMS (types, languages, instructional practices) that are delivered to

STUDENTS (languages, English proficiency, socioeconomic status, grades) and results in

EFFECTIVENESS (achievement, satisfaction) of the clients.

The districts and programs chosen for this study included both those with the reputation for relatively high achievement and those with lower student scores. Differences in achievement and client satisfaction, the two effectiveness measures, were then studies in light of the student and program characteristics to determine the implications for California policy makers. The contextual dimensions of district and community support of the services, parental involvement, and agency liaison activities, were examined to add information on the climate in which the programs operated.

When differences were found in either of the EFFECTIVENESS measures, achievement and satisfaction, the variables outlined for the preceding elements were examined to determine which contributed signigicantly to those differences and/or explained them. Suggestions and recommendations of the Advisory Committee and Technical Consultants guided the analysis plan, with special reference to the interpretation of achievement data.

Path analysis and multiple regression were the major analysis procedures for the study. Basically, the multiple regression techniques were used to identify those program characteristics that might explain the largest amount of variance between and among schools. A clear delineation of those implementation characteristics present in effective programs that were not seen in ineffective programs was deemed to be of particular importance to policy makers and school officials.

All statistical data were recorded on keypunch format sheets and computer cards were prepared and edited. The information was then transferred to tapes and the analysis run via the *Statistical Package for the Social Sciences - SPSS* (24) at the San Francisco State University computer center. The original collection instruments, recording sheets, keypunch cards, and all interview guides and other field instruments were placed in locked storage at Development Associates' San Francisco office.

Interim Reports

Five interim reports preceded this final report. In its first document of this research, *A Proposal for an Evaluation of California's Educational Services to Limited and Non-English Speaking Students*, Development Associates outlined the study approach in general terms. *Interim Report I*, submitted in April 1978, refined the research design and proposed the districts to be sampled. Suggestions from the Advisory Committee and Consultants were incorporated into the final version of that document.

Interim Report II, Submitted in November 1978, further refined the research design, with a detailed delineation of the study questions, and presented the preliminary data from the first set of interviews with the sample district officials. An *Executive Summary* was prepared for distribution to the Legislature. A subsequent document, *Supplement to Interim Report II: Study Sample*, specified

Limitations to the Report

Various limitations confronted the researchers during the specific phases of the study. During the first site visits, most of the districts pointed to potential problems with furnishing exact data on schools, classrooms, and types of program implementation. It was anticipated that some program sites would change from spring 1978 to fall 1978 because of factors such as school closure due to declining enrollments, reorganization of catchment areas, or the changes in numbers of students classified as LES/NES because of transfers, dropouts, or district exit criteria.

In addition, those districts usually having large numbers of migrants still did not have accurate counts on these students until late in the fall. Further, funding for the Indochinese refugee program was scheduled to terminate on September 30, 1978, and in cases where negotiations for federal funding was completed late, some reassignment of pupils took place. The effects of Proposition 13 were also felt at this juncture. Two of the sample districts were affected by teachers' strikes, and a third had a strike during the final phase of student achievement data collection, which further delayed the end of the data collection phase until September 1980.

The net results of these events and circumstances were as follows:

1. Some districts were unable to furnish certain data for this study at the appropriate time.
2. Some districts decided not to participate in the study, citing Proposition 13 cutbacks as the primary reason.
3. Some districts, although apparently willing to participate, restricted the information furnished to minimal time contributions due to personnel shortages, again caused by Proposition 13.
4. Several unavoidable delays were experienced in scheduling of data collection activities.

However, these problems were dealt with as they arose, with the assistance and cooperation of the Office of the Legislative Analyst.

Certain factors also affected the completion of each of the substudies, as well as the bulk of the research effort into program effectiveness, and these need to be mentioned because they impacted on the scope and content of the final results. At the modification of the study into the language census procedures on September 13, 1978, that investigation was in its initial stages. The report on the language survey instruments, contained in Chapter II, is necessarily limited and provides only some indications of their technical and psychometric properties.

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the schools to be included from each district and gave the probable classroom and student numbers for each school. Clarifications of some sampling issues were prepared separately.

Interim Report III (September 1, 1979) contained a further refinement of the design in linking the program implementation characteristics portion of the research to the program effectiveness data; described the probable analysis procedures; presented specifications on the program implementation characteristics substudy; and reported the investigation into the language census procedures. The revised versions of the Program Identification and Characteristics Guides are appended to that report.

Interim Report IV, tendered in December 1979, restated the research design and the accompanying procedures refined in the previous reports, presented the instrumentation, gave the initial review of the literature on promising practices in bilingual education, and introduced some of the preliminary data from the fall/summer collections. Similarly to *Interim Report III,* a discussion of the policy issues emanating from the data was included. An *Executive Summary* to the third and fourth interim reports was also submitted separately for general distribution.

Interim Report V, the last progress report to the Office of the Legislative Analyst, was submitted on April 15, 1980. Two types of material were presented: study of satisfaction with the services provided to the students and progress narratives on the other components in the study.

The final report consolidates and summarizes the contents of the five interim reports submitted by Development Associates during the study period. In addition, a major aspect of the final report is the detailed analysis of the effectiveness and implementation characteristics data that were collected during the thirty-four months of research. The report is presented in three volumes.

Volume I is the narrative report of the study. This volume consists of the Introduction (Chapter I) and seven additional chapters, each of which is prefaced by a detailed discussion of the pertinent study design and approaches.

Volume II is the executive summary of the final report. It follows the format of the narrative report, summarizes the design, findings, and recommendations, and includes the policy issues.

Volume III, Technical Material, contains the backup materials for the evaluation study. It is an appendix volume and includes specifics of the research, detailed tables for further reference, and all instruments used in the study.

The substudy on primary instructional practices which replaced the census study also faced limitations. When the work was planned for this part of the research, it was expected that there would be a readily perceivable congruence between the models, approaches, methods, and techniques described in the literature and those declared in use by the sample programs. A display section was thus anticipated that would show the distribution of the sample's implementation characteristics in relation to the major practices in bilingual education. As reported in the literature review (Chapter III) and program practices (Chapter IV), both contained so many contradictions that a systemization of the practices described in either was impossible. Second, many program staff members experienced considerable difficulty in ascribing implementation characteristics to what was being done in the classrooms. Thus, the promising practices in the literature and those in the sample programs had to be treated separately since the contradictions could not be resolved without great confusion. The program descriptors used in this report are those configurations actually observed and do not always coincide with district or literature reports.

Vigorous efforts were made to surmount obstacles and to complete the collection of all satisfaction data for the study (Chapter V). As previously stated, one district placed severe restrictions on the data that could be collected from the beginning of the study. Some of those restrictions were eased in due course and other information was made available, but the sampling in that district was much less than in most of the others. Because of some special characteristics of the population and programs, those data collected were retained despite their incompleteness. Another district, in which no restrictions were earlier stated, subsequently experienced difficulty with other investigations and decided to restrict access to certain data. While some of the problems were overcome, some important omissions occurred in the data from that district. In contrast to these losses, a district that had earlier decided to restrict some data collection agreed to participate more fully in the study. Finally, as would be expected in such a massive effort of data collection, occasionally respondents were not available despite repeated attempts to complete the interviews. While these omissions are regretted, it must be pointed out that they accounted for less than 2% of the respondents in the entire satisfaction study; it is unlikely that their replies would affect the findings.

Because examinations into the analysis procedures to be utilized in the study had shown a variety of ways to quantify the variables in the program characteristics, it was necessary for Development Associates to devise optional procedures and to finalize them in conjunction with specialists in the field and with the Advisory Committee and Consultants. This was particularly the case with student achievement scores; the simple reporting of all scores as gathered from district records would have introduced serious error into the study findings. A discussion of the problems encountered in this phase of the analysis and the methods employed to deal with them is contained in Chapter VI with additional details in *Volume III*. Some of the limitations earlier indicated also confronted the study of auxiliary services (Chapter VII). Unavoidable delays were encountered during the collection of data, and information was often sketchy and dubious, necessitating beyond normal effort.

In the Finance Study, the feasibility of tracking state and federal funds through the districts to the schools and classrooms depended on the expenditure of funds used to serve LES/NES students. The intricacies of state school financing formulas, plus the variations in district accounting and reporting procedures, suggested that the research would have to accommodate to some limitations and devise creative ways of dealing with the idiosyncratic problems in each district. The tracking of the financial resources proved to be problematic. Accordingly, the study concentrated on three districts from which a relatively detailed and intensive description of the financing pattern was produced. Although in selecting the three districts an effort was made to account for their geographic location, size, funding levels, and enrollment, the generalizability of the final case study results is necessarily limited. Nevertheless, the results of the study, albeit not necessarily representative of the entire state, should yield valuable insights that will further the understanding of the nature and extent of financial resources supporting services to LES/NES students.

As might be expected in a research effort of this size, accomodations and modifications in the study design and procedures were made as necessary to deal with the limitations, insofar as possible. In all cases, these were dealt with in a systematic manner, following the recommendations of the Advisory Committee and Consultants, so that the disruption of core study tasks was kept to a minimum, and so that the results would have maximum generalizability.

Summary Findings

Each of the succeeding chapters contains numerous details that differentiate among the many variables utilized in the complete study. As an orientation to the voluminous material, the most important findings are outlined at this point. This should provide valuable guidance to the study of the research design of each of the substudies, the full descriptions of the variables and their results, and the subsequent recommendations and statements of policy issues.

Language Assessment: Examination of the different assessment procedures used across the years and the numbers of limited and non-English speaking pupils identified did not account for variations; increasing numbers of LES/NES pupils in the state, the acquisition of English by some pupils in the schools, together with the different assessment procedures obscured relationships between the LES/NES counts and the procedures. Expert examination of the Home Language Survey showed improvements that could be made in some of the many language versions, but the survey, generally, appeared to function adequately. The Observation Assessment Instrument, used to classify students as fluent, limited, and non-English speaking for placement purposes at the beginning of the study, although described as determining dominance, was judged by test design specialists to be primarily an examination of proficiency. Problems were found with some of the language versions and recommendations for their improvement were made.

The proficiency instruments mandated later and specified after intense study by a committee of experts and the State Department of Education, were used for entering students and to update the classifications of others during the final year of the research. Few practitioner criticisms were voiced during the interviews; the school staffs generally agreed with the overall classification produced by all four instruments. Further examinations into the psychometric properties of the four, carried out again by a special study panel and the State Department of Education, led to a reduction of the four instruments to two for future years. A consistent recommendation by district and school personnel was that the tests should not be changed frequently since such changes necessitated acquisition of the instruments, substantial training of the administering personnel, and additional time to make the assessments. The continuing need to assure the highest reliability and validity of the assessment instruments, however, makes it difficult to adhere to this recommendation.

Instructional Components Literature: The intensive search of the literature about instructional practices in bilingual education and the teaching of English as a second language resulted in summary descriptions of the materials according to the information they provided on models, approaches, strategies, processes, methods, and techniques. The confusion about these terms in the literature made discrimination among them difficult at best and at other times impossible. The small amount of specific information on these educational components was often commingled with philosophical and theoretical arguments, making assessment of their value problematic.

The second guideline to the study of the available literature was that emphasis was to be placed on those materials that included some evidence of the effectiveness of the practice described. The information on effectiveness was almost always in the form of a general judgment and few data were in evidence. The few objectives studies encountered had found achievement differences for the amount of language structure employed, interaction between instructors and pupils, and the proportion of time utilized in learning activities as compared to management of the pupils. The literature on teaching English as a second language usually contained much more practical information on instructional practices than did that on bilingual education. A lengthy bibliography on the most useful literature was provided from this search.

Pupils, Programs, and Instruction: The collection of pupil characteristics and the descriptions of the programs and the instructional practices drawn from the classroom observations showed extreme variations in the classrooms in the sample. The data on the first language of the pupils, English fluency, socioeconomics, and student status demonstrated that generalizations about "bilingual education" or English as a second language programs were likely to be so contaminated from differing proportions of these that they would have little value. The observations also revealed that most schools had several different programs in operation at the same time and within the same grade.

The implementation of the programs varied so much, as gauged by measurement of the instructional practices observed in the classrooms, that in some aspects, there were more differences within programs than between them. A wide range of implementation was found in the groupings used in the instruction, instructor/pupil interaction, structure of the language presentations, instructor language proficiency, language modeling activities, and exposure to learning. The sequence in which the students had learned reading in the primary language and English varied markedly within the sample. Mixing the primary language and English was more common than the literature had indicated.

Satisfaction: A high proportion of the sample students, program teachers and aides, non-program teachers, resource teachers, administrators, parents, and community members saw the acquisition of two or more languages as important, agreed that the schools generally were achieving their goals, and that the bilingual legislation was satisfactory. Notable exceptions on the legislation were the American Indians and members of some other minor language groups who felt that the acts should include some provisions for the revitalization of languages that were being lost. The second most important criticism was that the implementation of bilingual education did not always meet the requirements in the law.

Pupil progress in the classes, the way the classes were taught, and the teaching of cultures were viewed with differing amounts of satisfaction, although generally they were judged as satisfactory. Non-program teachers, monolingual Spanish speaking parents, and some community members were less likely to be satisfied than were the other groups. Many of the respondents were not well satisfied with the community participation, citing small attendance at meetings, that a few people did most of the work, and that some ethnic groups, especially Asians, did not become involved.

The respondents were in substantial agreement about the enrollment of the students in the program; they preferred participation until the pupils were fluent in English. Speakers of Spanish and the languages of China were more likely to choose either the alternative of until fluent in English and the primary language or all twelve years of school. A very high proportion of the interviewees preferred that the instruction be 25% in the primary language and 75% in English. A half and half proportion was chosen by many students and parents who had recently arrived in the United States and who spoke little English. Non-program teachers and some community members chose shorter periods of enrollment and less primary language. An important finding was that few of the respondents had ever been asked their opinions on bilingual education. They thought that it was important to seek client information on the programs.

Pupil Achievement: The pupil characteristics of English fluency, socioeconomics, and student status had the most powerful effects on the English achievement scores. Asian language students tended to score higher than the other groups. The means for one program, that in which mostly the primary language was taught, were lower than the others; relatively minor differences were found among the others and those differences were generally explainable by the varying compositions of the students in those programs. Facilitation, the use of the primary language to explain terms and concepts and in classroom management, was characterized as having lower student means that did those that actually taught the primary language. Students who learned English reading first or who learned to read in English and the primary language at the same time scored about alike in reading and mathematics but learning both at the same time appeared to have produced higher scores in the English language subtest.

The most important instructional variables associated with differing English achievement means were whether or not the teacher habitually mixed the two languages, the teachers' English proficiency, the amount of learning time, and the quality of the English modeling. Mathematics scores were less affected by these than were those for reading and language. The effects of these instructional variables were much greater when only the limited and non-English speaking pupils were examined than when the fluent English speakers were included. In fact, the instructional variables were shown to have relatively small influence on the achievement of the fluent English speaking pupils.

The English and Spanish reading and mathematics achievement scores of the students obtained in the same year were highly correlated for the small sample whose scores coincided. They tended to score very much alike in the two languages. That finding was largely confirmed for the larger number of students with Spanish achievement scores, in that English fluency was associated with score differences; the English fluent students taking the Spanish test were literate in both languages. Socioeconomics differentiated among the Spanish scores much as it had for the English scores. Similarly, student status - regular, migrant, special education - continued to be associated with score differences: regular, highest mean scores; followed by migrants; and special education, the lowest.

The differences among the implementation of the instructional variables were substantially reduced in the case of the Spanish test classes; many variables could not be examined because of the uniformity for those students that had Spanish test scores. Only two were shown to be important for this sample: the sequence in which the students had learned reading, with those that had learned both English and primary reading at the same time scoring higher; and the number of Spanish reading activities, with those students in classes in which a large number of such instruction scoring higher than those with a medium amount.

There was some evidence in several of the English and Spanish test measures that appeared to show that literacy in two or more languages was an important factor in students scoring high. Concomitantly, those instructional practices that taught the two languages rather than just use one to facilitate the instruction, were asssociated with score differences.

Auxiliary Services: A high proportion of the teachers was certificated for the bilingual program; only a few held the English as a second language certificate. A much smaller group of teachers was on waivers and pursuing courses toward certification. Some were neither but those tended to be emergency assignment to classes with substantial numbers of limited and non-English speaking pupils; most of them did not intend to continue with the assignment. The preparation and experience of the aides was varied and some progress toward a career in teaching was found but it was not universal.

Although there were a few notable exceptions, the liaison between school districts and universities tended to be sporadic and dependent upon the availability of special funds. The assistance from federal and state projects was restricted to a small proportion of the districts, but when a district and a project did work together, important products and training were evidenced. Assistance from regional organizations was generally described as worthwhile and providing services that many of the individual districts could not perform for themselves. Help from several offices and bureaus in the State Department of Education was described as very important, even when that could be provided only via the telephone. The articulation among the several programs funded by different sources was described as strong; most of the respondents noted that articulation had increased since the inauguration of the consolidated application and the economic impact aid provisions.

The study of the advisory committees showed that some were not operating at the time of the interviews, that most met several times a year, and highlighted one extremely active committee that also helped attract a great deal of volunteer services to the program with which it was associated. Involvement in the instruction in the schools was very scarce except in the special case noted and in one other school.

Finance: The finance substudy concentrated on the case study approach. Information on budgets was substantial but expenditures were impossible to trace. Similarly, tracking the use of funds from the district offices to the school to the classroom could only be accomplished by estimates and those produced marginal indications of the application of them to the needs of the students. The decisions about the use of funds were mostly taken at the district level but some schools participated via the presentation of budget requests. Bilingual monies were described as spent mostly for the instructional staff, especially aides. Districts received their bilingual monies primarily from the LES/NES count but adjustments were made for other financial conditions. The bilingual funds were generally described as adequate with the exception that some adjustments were needed when a school experienced a large amount of student enrollment after the allocations had been made.

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CHAPTER II: LANGUAGE ASSESSMENT

An important component of the Development Associates study of services to limited and non-English speaking students, as originally designed, was research into the language assessment procedures used to identify those needing assistance. Chapter 894, Statutes of 1977 (AB 65), stated the mandate as a study of (13):

> The nature, extent, and quality of census procedures at the state and local levels in identifying limited and non-English speaking children as provided...

The census procedure contained two steps: obtain information on the language(s) spoken by the child, his family, and others in the home environment; then those declared by the parents to speak a language other than English were to be administered a dominance (later proficiency) instrument to determine English fluency. The first step was, and still is, accomplished by the Home Language Survey. The second step was done, in the early period of the research, via the Observation Assessment Instrument and later through one of four proficiency instruments. Fluency in the primary language was also to be assessed when a measure was available for the language. Throughout the study period, a district could obtain permission from the State Department to use a different instrument, or a system utilizing more than one measure, if sufficient evidence warranted the exception.

Design of the Language Census Substudy

The original research approach included a review of the literature on language assessment and dominance, with emphasis on the Home Language Survey and the Observation Assessment Instrument. The design envisaged expert examination of the two instruments, together with the administration procedures, to obtain preliminary information on their psychometric properties. Additionally, experts in the appropriate languages were to study each one in relation to the English version to ascertain whether or not they were parallel. Interviews with test administrators were to determine some practical aspects of their use and the appropriateness of the classifications for classroom placement. Interviews with teachers were to provide some professional and practitioner judgments about the placement via the classifications in relation to the children's performance in the classes. Subsequently, Development Associates was to administer the Observation Assessment Instrument twice to a sample of students to obtain information on its reliability, then assess the same students via another well known dominance instrument, to determine the coincidence of the classifications between the two.

On September 18, 1978, after initial work had begun on the substudy, the California Legislature passed Chapter 848, Statutes of 1978 (AB 3470). That law changed the language assessment procedures as follows (12):

> The English language proficiency of each previously untested new enrollee, whose primary language is other than English, shall be assessed . . . using the instrument designated by the Department of Education. This assessment shall be completed within 30 days after the date of the pupil's enrollment unless the temporary identification . . . is used. An English language proficiency assessment shall be undertaken to evaluate the pupil's English language skills. The instruments used shall be consistent with state standards as adopted by the State Board of Education.
>
> This second level of assessment shall be completed within 60 days after date of the pupil's enrollment . . . [and] . . . completed no later than March 1 of each year . . . The Department of Education shall designate the instruments to be used by school districts, and such instruments shall be available by July 1 of the year preceding the date the census report is due commencing July 1, 1979, and each year hereafter.

Since the Observation Assessment Instrument was popularly classified as a dominance instrument, the bill had the effect of prohibiting its further use unless an exception by the State Department of Education was granted. After a great deal of study, a committee recommended four proficiency instruments; those were utilized during the base year of the study, 1979-1980. In fall 1980, instructions were sent to the districts restricting the 1981-1982 assessments to two of the four unless an exception was granted (24).

When the change from dominance to proficiency was legislated, September 1978, Development Associates had obtained the test development expert examinations of the two instruments, Home Language Survey and Observation Assessment Instrument; experts in the several languages had provided their reviews of the different versions; the first interviews with the test administrators had been completed; and the literature on language assessment had been surveyed. On September 13, 1978, in agreement with the Office of the Legislative Analyst, the reliability and validity studies of the Observation Assessment Instrument, scheduled for that fall, were eliminated (49). The substudy on language census procedures was thereafter limited to the examination of the processes through which the proficiency instruments were chosen, the available literature on them, and the district experiences with their utilization. The preliminary information gathered to that time was prepared and submitted in *Interim Report III* (49); this present chapter in the final report summarizes that information and updates it with the data obtained since that time.

In all but the extreme cases where only the primary language or only English was spoken, the designations of dominance appeared relative, particularly in the middle ranges usually categorized as "bilingual." The middle categories, according to De Avila & Duncan (43) and Gonzalez (52, 53), lacked empirical and theoretical justification and tended to be relative to hypothetical criteria such as the number of items correct, type of response, or related scores unique to individual instruments.

The use of varied instruments and the continued use of the old Language Dominance Index Form in California, despite criticism about its narrowness in adequately measuring the listening, comprehension, and speaking ability of a child in English or other languages, resulted in dramatic differences between the language censuses conducted in 1975 and 1976 (27, 28). The passage of the Chacon-Moscone Bilingual Bicultural Education Act, Chapter 978, AB 65, Statutes of 1976, was in response to the felt need for prescribing uniform census taking procedures. The bill specified that the State Superintendent of Instruction "prescribe uniform census-taking methods." Accordingly, the State Department of Education convened a committee of education practitioners to study the possible instruments (38). The committee recommended the adoption of the Home Language Survey and the Observation Assessment Instrument, both of which were developed in the San Diego City School District.

The results of the 1977 language census (18, 23, 25) showed 57,100 non-English and 176,344 limited-English speaking pupils. (See Table 1.) The total, 233,444, represented about 80% of that found in 1976, but the 20% remaining was not evenly divided between LES and NES children. In the 1976 census (27), non-English speakers accounted for 33.8% and in 1977, for 24.5%. While obviously there were new and previously untested children included in 1977 and thus the results were not absolutely comparable across the two years, it would still appear that the more uniform procedures produced important differences. Proportionately more children appeared to have been classified as limited-English speaking rather than non-English speaking. The more uniform procedures, usually via the Observation Assessment Instrument, resulted in a 20% reduction of the total LES/NES students with a greater decrease in non-English speakers than in limited-English speakers.

Changes in the relative proportion among the reported languages had occurred between the 1975 and 1977 surveys (the 1976 survey was not available by language). Spanish remained, however, the dominant language of LES/NES children, accounting for 84% of those assessed. Philippine and Chinese languages/dialects were next in line in 1975, but Vietnamese had become the second largest group by 1977. The four largest language groups made up 91% of the total California LES/NES children, according to the 1977 survey.

The California Experience

Language census procedures in California schools had their genesis in the movements toward the assessment of languages which began during the decade of 1960s as a result of heightened awareness of various ethnic and cultural groups to the perpetuation of non-English languages (36, 58). Late in the decade, the federal government funded special projects, including some in bilingual education, designed to improve the achievement of limited English speaking pupils (2, 4). As part of their controls over the participants in these projects, requirements for identifying pupils were established. Modifications of some older instruments and a host of newly created ones were immediately forthcoming. Lists and bibliographies from the late 60s and early 70s contained many from California schools (58, 59, 63, 84, 85).

The first attempt at a statewide language census in California was made in academic year 1972-73 as a result of the Bilingual Education Act of 1972. An instrument entitled "Language Dominance Index Form" was used and seventy-one different home languages were reported. Although there were criticisms about the instrument (10), districts continued to use it as well as others.

The Lau vs. Nichols decision by the US Supreme Court in 1974 gave enormous impetus to language assessment and census procedures. Pursuant to that landmark decision, guidelines were prepared by the Office of Civil Rights (89):

> The first step . . . is the method by which the district will identify the student's primary or home languages . . . [which] . . . is other than English if it meets at least one of the following descriptions:
>
> A. The student's first acquired language is other than English;
> B. The language most often spoken by the student is other than English;
> C The language most often spoken in the student's home is other than English, regardless of the language spoken by the student.
>
> These assessments . . . must be made by persons who can speak and understand the necessary language(s). Then the district must assess the degree of linguistic function or ability of the student(s).

As would be expected, a flurry of activities occurred in the production of language census and dominance instruments. Some were new and others were modifications of existing tests (63, 51). Efforts to comply with the guidelines evoked much discussion on psychometric issues in language dominance assessment. Also, inconsistencies were apparent in the definitions of dominance.

Table 1: Spring 1977 State Census Results for LES/NES Students in the Public Schools

Language	NES	LES	TOTAL	%
Spanish	51,878	143,795	195,673	83.82
Vietnamese	523	5,296	5,819	2.49
Chinese*	966	4,734	5,700	2.44
Tagalog	379	5,291	5,670	2.42
Korean	829	3,442	4,271	1.82
Japanese	461	1,571	2,032	0.87
Portuguese	288	1,594	1,882	0.80
Samoan	143	1,009	1,152	0.49
Ilocano	48	871	919	0.39
American Indian	11	207	218	0.09
All others Combined	1,574	8,534	10,108	4.32
TOTALS	57,100	176,344	233,444	99.95

**Includes Cantonese and Mandarin.*

The language survey report format changed between 1975 and 1977, listing some languages with "all others" that had earlier been separate. Thus, French, German, and Italian, each with more than 1,000 students in 1975, were not available for comparison with the 1977 numbers. Korean, not listed individually in 1975, made up 1.8% of the 1977 total. No other language group listed separately made up 1%.

An examination of these sample district figures by type or size of district, geographic location, or approximate percentages of LES/NES to total enrollment showed no readily apparent pattern. (See Table 2.) Viewing the reported census counts across the years, it was difficult to derive any definite conclusions:

Spring 1973	188,159
Spring 1975	233,520
Spring 1976	291,008
Spring 1977	233,444
Fall 1978	219,895

The 1973 count was from only 1,078 districts. Those for 1976 and 1977 included some estimates. The 1978 count was only for those districts that received state or federal bilingual monies, thus at least those that did not receive funds were not included, although according to the allocations formula, the numbers of LES and NES children in those districts would have been very small. California had received a high proportion of new immigrants, especially from

Table 2: Comparisons of the LES/NES Enrollments in Fifteen Districts: 1976, 1977, 1978*

Type of Area	Approximate Enrollment	1976 LES/NES	1977 LES/NES	1978 LES/NES
Rural	1,300	386	346	346
Rural	4,700	3,540	2,002	1,996
Urban	54,800	2,354	1,645	1,645
Suburban	7,600	695	581	1,435
Suburban	7,750	315	276	276
Urban	721,000	93,268	93,000	70,290
Urban	47,500	3,316	985	942
Urban	124,000	3,704	3,952	3,952
Urban	74,800	13,253	6,889	5,454
Urban	36,700	1,211	2,503	2,503
Rural	5,600	561	443	443
Suburban	19,300	680	514	471
Rural	2,000	30	1	1
Rural	3,200	68	10	10
Rural	7,500	680	512	531
All		124,031	113,659	90,295

*Abstracted from: *Language Dominance Survey, 1976; Language Dominance Survey, 1977; Bilingual Bicultural Education Funding Allocations FY 1978-1979, January 16, 1979.*

the Philippines, Mexico, various Oriental countries, and in 1978, substantial numbers from Nicaragua and Iran. At the same time, the California districts, like those in some other areas (56), reported large numbers of students moving from limited-English speaking categories to fluency and more native born kindergarten children entering school with bilingual capability. It might well be that the two factors, new immigration and increased English fluency, created an approximate balance in the numbers of limited- and non-English speaking students across the years.

It is important to note, however, that there was a great deal of disagreement about the census figures. The Department of Education itself suggested that the 233,444 reported for 1977 was an "undercount" and that a higher number, 256,300, reported to the State Board of Education, was also "incomplete and subject to revision." (64) In the same report, the department projected the limited and non-English speaking student population to rise to 400,000 in 1982 and to 500,000 in 1990.

Home Language Survey

This instrument consisted of five questions intended to determine the first language acquired by the student and the language(s) spoken in the home. The survey was first developed in English, Spanish, Tagalog, and Chamorro and later expanded to thirty languages. (Copies of seven of the language versions were included in Appendix A of *Interim Report III* and are also appended in *Volume III* of this final report.) To ensure proper administration of the form, the State Department of Education (18) prepared detailed instruction and set out sample forms to the districts. A handbook was prepared under contract (39) and it, too, was provided.

Relatively few problems have occurred with this form. Two procedural difficulties - the need to administer the form every year and whether it could be administered when the parent or guardian brought the child in for enrollment were encountered. Both were satisfactorily resolved, updating was substituted for the annual survey, and the form could be administered at school as well as at home.

In summary, the Home Language Survey, especially the change from annual administration to updating, appeared at the time of the study to be functioning well, albeit some improvements were needed. It was specifically suggested that if the use of the instrument had to be continued, some benefit might be derived from reducing unnecessary testing by modification of the requirement that "if the answer to any one question [in the instrument] is Yes," the child must be tested, even though he spoke only English according to the other questions.

Observation Assessment Instrument

The use of this instrument was described in its accompanying handbook (39) as a "dominance survey instrument . . . intended to provide a quick assessment of a student's language proficiency," and "is an individually administered oral comprehension and oral production instrument." Like the Home Language Survey, the SDOAI* was administered almost universally in the California districts in spring 1977. Each district was provided copies of the English and other language versions of the instrument; the California Language Census Handbook and separate Department of Education Directions for Administering the Observation Assessment Instrument; and two sets of photographs, one for the elementary and one for the secondary. (Copies of these documents are contained in Volume III of this Final Report.)

**San Diego Observation Assessment Instrument*

There were relatively few difficulties encountered with this instrument. It was noted that the SDOAI required only a few minutes to administer and thus, was relatively less expensive than the more time consuming instruments. There were criticisms, however, on some of the language versions.

Reactions to the instrument were varied. Interviews with some test administrators pointed out that the rules resulted in some unnecessary testing. The major example cited was that in which the child's first language was English and the parent reported always speaking to the child in English, but other family members spoke another language at home. Since the dominance instrument was required to be administered if the answer to any one of the four questions on the survey was "yes," the child in the example would have to be so assessed. The informants pointed out that such cases always resulted in an assessment much higher in English than the home language. The extra testing was not so difficult when the home language was one for which the district had a qualified tester easily available; quite the opposite was true for the many minor languages.

Some of the testimony to the Legislature and many of the responses to the interview questions to the district officials also brought out possible areas of difficulty with several of the language versions of the Home Language Survey (3, 11, 37, 78). These were then submitted to recognized experts in that language to ascertain the nature and extent of the problem.

The major problem with the Chinese version was that the items were incomplete, especially within the instructions. It was thought to be critical that some of the stimulus sentences were partially missing. The only difficulty with the Japanese version was that it asked for the child's "Japanese name" and "English name." This was reported to have resulted in considerable confusion in the records and a revised version was suggested that would eliminate the problem. A Pilipino labeling problem existed in both the Home Language Survey and the Observation Assessment Instrument.

One general concern of the instrument development experts was the series of terms used to describe the SDOAI: dominance, fluency, oral comprehension and production, comfortable, tell, expand conversationally, full production, speaks in a manner similar to that of a native speaker. At the same time, the materials noted that the SDOAI was not intended as a proficiency measurement and that it does not determine the degree of skill in the production of language.

Finally, the reviewers agreed that the Observation Assessment Instrument was in fact primarily a language proficiency measure. They agreed with the authors that it does give some information about dominance, perhaps more than some others so labeled, but that so do all proficiency instruments. They also agreed that, except for the word "comfortable," the instructions for administration.

The experts in instrument development, however, discussed one element within the instrument and its scoring that needed attention -- the number of items on which the judgments about the child's dominance was made. While the direct and prompting questions should allow for a range of items on which to determine fluency (the term used by the authors), caution was advised. Instruments with few items would seldom demonstrate high reliability and minor variations would impact heavily. Thus, if the rapport of the tester and child were poorly established, and especially if fear or distrust were present, a tester who asked only the listed questions might elicit little that was productive. The limited quantity in that case might be mistaken for lack of fluency. It was also pointed out that the whole issue of rapport, of the setting in which language assessment takes place, of who should make the assessment, was neglected in both the handbook and the separate Department of Education instructions. Accordingly, some rethinking would be needed on the procedures, and at least indications of appropriate settings/conditions should be included in test manuals and/or training.

The stimulus photographs were judged to be useful and appropriate for the assessment. The inclusion of minority persons in them was praised. The inclusion of children was also considered appropriate especially for elementary children. Only one photograph was thought to be too ambiguous. Another was suggested as probably more suitable for the elementary set than for the secondary. Both sets, however, were described as interesting and should present enough variation so that almost any student could respond to them.

It should be noted that at the time of the study, the San Diego City Unified Schools, with the permission of the Department of Education, sought to modify the Observation Assessment Instrument in combination with other measures to reflect the Lau requirements. The product was a Schools Skills Continua, in both the primary language and English, and was being utilized by that district for proficiency assessment and for diagnostic/prescriptive purposes. Some success on its use had been reported (65, 71, 72, 73, 74).

Language Proficiency Testing

As previously noted, further efforts in language proficiency testing were overtaken in 1978 by the passage of AB3470, Statutes of 1978 (12). The SDOAI was set aside and in its stead the State Department of Education, in complying with the new law, designated (after ad hoc committee hearings) four instruments from which school districts could choose.

1. *Language Assessment Scales (LAS)*

    Linguametrics
    P.O. Box 770
    Larkspur, CA 94939

The *LAS* is an English/Spanish K-12 test of oral language. It assesses four psycholinguistic subsystems: phonemic, referential, syntactical, and pragmatic. Administration time ranges from 15 to 20 minutes. Price per kit is $49.50 for 100 students.

2. *Bilingual Syntax Measure (BSM)*

   The Psychological Corporation
   1001 Polk Street and 5900 Wilshire Blvd.
   San Francisco, CA 94109 Los Angeles, CA 90036

   The *BSM* is a K-12 English/Spanish oral language test. It assesses basic syntactic structures, structural proficiency in English, structural proficiency in Spanish, and degree of maintenance or loss of Spanish. Administration time ranges from 15 to 20 minutes. Price per kit for 35 students: level I, $54.60; level II, $47.75.

3. *Language Assessment Battery (LAB)*

   Houghton Mifflin
   777 California Avenue
   Palo Alto, CA 94304

   The *LAB* is a norm referenced K-12 test in English/Spanish. It assesses reading, writing, listening comprehension, and speaking. There are separate sets of tests for each language (English/Spanish) and for each grade level (K-2; 3-6; 7-12). The K-2 level is individually administered in 5 to 10 minutes; grades 3-6 and 7-12 levels are group administered in 41 minutes. Price of materials for a classroom of 35 students is about $53.00 for level I and $35.00 each for levels II and III.

4. *Basic Inventory of Natural Language (BINL)*

   CHECpoint Systems
   1558 N. Waterman Avenue, Suite C
   San Bernardino, CA 92404

   The *BINL* is a K-12 measure of oral language in English, Spanish, and Portuguese, based on a "natural" language sample. The focus of assessment is vocabulary, structure and morphology. Price per kit is $85.00 for 100 students (administration time not specified).

As part of Development Associates' study of the services to limited and non-English speaking students in California, study participants were interviewed regarding student assessment procedures. Early reactions to the above instruments from district officials were mixed. Most noted that one of the instruments was used on federal projects as well, allowing for uniformity of testing across state and federal participants. Most also noted the higher costs for purchase and administration; these were allowable costs in federally funded programs but had to be absorbed by districts in state funded programs. The most frequent comment by district offices was that only one of the four, the *LAB*, met the legislative mandate of measuring oral, aural, reading, and writing comprehension. Further, they noted that none of the tests measured language proficiency in any language other than Spanish and English, forcing them to use other instruments for the many other languages.

Development Associates interviewed each teacher from the sample classrooms in the study regarding the assessment and achievement instruments used for English and primary language proficiency. A total of 274 questionnaires were completed by classroom teachers. As will be evident in the following summaries, the sample teachers reported the use of a wide variety of instruments for assessing language proficiency in English and Spanish in addition to those designated by the State Department of Education. Very few instruments were available in languages other than Spanish, and teachers of these languages relied much more heavily on locally developed materials and personal assessment. Some of the teachers questioned were not involved in assessment testing and were thus unfamiliar with instruments used, either because the testing was handled by the district or bilingual office, or because they taught only one subject area.

Classroom teachers listed 30 different tests that they utilized for assessing the English proficiency of LES/NES students; 15% of the respondents did not answer this question. Sixty-two percent used one or more of the state designated tests, either alone or in combination with other tools, while 28% reported only the use of other tests in their classroom. Table 3 summarizes the major findings on this question.

Although the majority of the classroom teachers queried did use at least one of the state designated tests, the category of "other tests" included many instruments which were clearly not language proficiency measures. These included achievement tests, such as the Comprehensive Test of Basic Skills and the Stanford Achievement Test as well as criterion referenced tests and tests from commercially available series.

All four language assessment tests designated by the State Department of Education had Spanish versions and these were used for the Spanish speaking students. One test had a company produced version for Portuguese speakers. However, teachers of other languages had to rely on locally developed materials and translations of other tests, even in programs serving a substantial number of students in language such as Cantonese. Many of these students received only informal teacher assessment of primary language proficiency. Thirty-five percent of respondents did not test their students for primary language proficiency; and, of those, 12% stated that no tests were available for use with their students.

Table 3: Self Report of English Language Proficiency Assessment Instruments Used in Sample Classrooms

INSTRUMENT	No.	%
**BINL*	79	23.7
**BSM*	46	13.8
**LAS*	38	11.4
**LAB*	13	3.9
Moreno	40	12.0
Teacher made tests; teacher judgment	38	11.4
District tests	25	7.4
All other tests	55	16.4

**State designated tests*

Again, the range of tests used reflected the lack of a standard approach to primary language proficiency assessment in the sample schools. As shown in Table 4, even for Spanish assessment, just over half of the responses indicated the use of the state designated tests. For other primary languages, all assessment was done by teacher judgment or by locally developed criterion referenced tests. One district reported that aides translated a state designated test into the pocket languages, such as Korean, Japanese, and Cantonese, and that the test scores were then incorporated with other test scores for the district.

Table 4: Self Report of Spanish Language Proficiency Assessment Instruments Used in Sample Classrooms

INSTRUMENT	No.	%
**BINL*	56	26.30
**BSM*	39	18.30
**LAS*	16	7.51
**LAB*	4	1.87
Teacher made tests; teacher judgment	24	11.27
District made tests	9	4.22
All other tests	62	30.50

**State designated tests*

The vast majority of the respondents had no comments to make regarding the tests used, although most teachers had some familiarity with the testing affecting their students. Of those comments received, most were negative and tended to be directed at the standardized tests rather than those for language proficiency. Teacher comments are summarized by major category of responses in Table 5.

Table 5: Teacher Reactions to the Language Assessment Instruments Used in Sample Classrooms

COMMENT	English Language Tests		Primary Language Tests	
	No	%	No	%
No Comment	219	75.0%	247	90.0%
Adequate, good	10	3.5	4	1.6
Too easy	1	0.3	--	---
Too difficult	14	4.9	2	0.7
Invalid; inaccurate; biased	26	9.1	13	4.7
Unfair to test LES/NES in English	11	3.8	1	0.4
Teacher made tests are best	4	1.4	--	---
Too much testing	1	0.3	1	0.4
Great need for primary language tests	--	---	6	2.2
TOTALS	286	100.0%	274	100.0%

Systems Approach to Assessment

A large number of diagnostic and prescriptive instruments already existed when bilingual education began and many of these were incorporated into program plans for language assessment. While oral/aural assessment continued as the most important, those measuring these special skills, along with reading and writing, became prominent. Some complete package systems for the language arts were developed. They often included the diagnostic instruments, the prescriptions for remedying deficiencies, special practice materials, and suggestions for the teaching methodologies. (7, 50, 81, 84, 90)

A recent trend in language assessment was a combination of methods approach. The system in Hawaii (55) is typical; it contains a home language survey, proficiency (the Silverman Language Facility Test), home interviewes, several specific diagnostic tests depending upon the level of the student, and frequent reassessment. Pressure to coordinate the entry criteria with those for exiting is increasing the popularity of the systems approach such as those under development in the San Jose Area Consortium (76) and the San Diego City Unified School District (71, 72, 73, 74), both in California.

Increased attention to current policy, program, and assessment issues motivated the State Department of Education to convene a bilingual convocation in Santa Barbara, California in late spring, 1978 (21). The department commissioned nationally distinguished educators to draft the initial papers and carry them through the process of panel reviews and finalization. Among others, the following recommendations on pupil identification, placement, and diagnosis are worth noting:

. A two step process of the Home Language Survey, followed by English proficiency assessment, should be used to identify LES/NES students.

. The Home Language Survey should be revised to allow inclusion of more than one language response, to provide instructions that explicitly require an interviewer who speaks and understands the students' primary language when the HLS is administered, and to make the HLS part of pupil registration.

. The second step in LES/NES identification should be oral English proficiency assessment in which certain criteria are met.

. The state should require the use of proficiency measures as opposed to dominance in the establishment of entry and exit criteria.

There is still unfortunately a dearth of published information and independent research on the four instruments designated by the State Department of Education pursuant to AB 3470. While there is some published information on them, most of it was written by the authors or their companies. All four are acceptable to the ESEA Title VII authorities and are on the permissible list of the Texas Education Agency. (84, 85) The companies issuing the instruments reported that research into their psychometric properties was continuing. *(*See next page.)*

In 1976, Silverman and others (79) of the Northwest Regional Educational Laboratory conducted an evaluation of some 25 language dominance and proficiency instruments, which included the BINL, BSM, and the LAB (then in the field test stage). Four criterion areas were used: measurement validity, examinee appropriateness, technical excellence, and administrative usability.

*Subsequent to the preparation of the draft of this report, three communications were received about some of the language proficiency instruments:

The Department of Research and Evaluation, Chicago (Illinois) Board of Education (Carole L. Perlman & William K. Rice, Jr., 1979) reported "a definite developmental trend in LAS scores for monolingual English and bilingual 5-10 year olds." The report also noted that "using the author's norms, there is an unacceptable rate of false negatives, i.e., monolingual English students who would be classified as needing a bilingual program." They concluded that "Because of problems with the administration and norming of the LAS, it is of highly questionable utility as a classification device for children from non-English backgrounds."

The Tulare (California) County Department of Education, Title VII Bilingual Bicultural Consortium (Bruce R. Berryhill, 1977), examined the LAS and the BINL and listed some problem areas and/or strengths of them:

BINL: "A disadvantage...(of the syntactical analysis)...is that the examiner will have to become familiar with the concepts to score the test accurately and to truly understand the results...a burden for some teachers." "The BINL disregards the element (pronunciation) of the language...a serious problem in some children." The use of visuals as stimuli and the recording of the student responses were seen as positive factors in the BINL.

LAS: The tape recordings to elicit student responses were seen as a LAS weakness. The report also criticized the LAS, noting "There is no linguistically or pedagogically sound reason for placing heavy emphasis on phonological difficulties and deficiencies of children who are...acquiring a second language...especially memorization, sequencing, recall..."

The scoring procedures for both the BINL and the LAS were described as "complicated and time consuming."

The Fresno (California) Unified School District (Office of Educational Research, 1975) reported that "As measured by the (BINL), students displayed approximately equal levels of complexity in their primary language whether that language was English or Spanish." Also, "There were significant differences, $p=.01$, between the means (for the English and Spanish dominant) students." The report concluded that "the test (BINL) appears to discriminate between the languages in identifying dominance and to provide a valid measure of growth in language development."

All three tests were rated poor or fair on all areas, except the BSM and the LAB which were rated good on examinee appropriateness.

Buros' latest yearbook on mental measurements (7) contains reviews by three authors on the Bilingual Syntax Measure I. The three reviewers - Bejar, Graham, and Oller - questioned the wisdom of using syntax as the only criterion for measuring language proficiency. The test-retest validity data on the instrument also was not particularly impressive to them. Although all three reviewers regarded the test as a carefully researched and thoughtfully constructed instrument, much more could be done to improve it through additional testing techniques.

On the Language Assessment Scales I (LAS), two independent reviews have been encountered. Brainard (6) found that the test provided a general understanding of the linguistic level of the student based on the computed total score. However, he suggested that the presumed dominant language of the testee should be given last so as not to give the answers away on the two similar sections of the instrument. The LAS could be used for small groups but had limitations with large groups for screening purposes. While the computations were not technical, they could take too long if district wide testing were being done with large numbers of students by a small number of examiners. Scoring with decimals also opened up the probability of computational errors. Dalton (42), the other reviewer, tried to determine the concurrent validity of LAS I as a measure of English proficiency by comparing student scores to teacher judgment as reflected in a rating scale. He found that the LAS I had moderate concurrent validity. The scores correlated at .73 with a quantitative measure of teacher judgment. All the students who scored low in the test were judged by teachers to need special instructional help because of their English language deficiency.

As for the BINL, at least one school district found the instrument to be a reliable measurement for oral language development. In analyzing the factors that contributed to the lack of reading skills among junior high students, researchers at the San Leandro Unified School District reported that by using separate instruments they were able to correlate BINL scores with reading scores to chronological age. Also, by holding focused interviews, they were able to establish at what school year the student quit progressing.

Locks and others (63), in their 1978 report on language assessment instruments for limited English speaking students included the four state designated instruments. However, their categories of "acceptable or non-acceptable" for all the tests they reviewed provide little guidance on the technical qualities of these instruments.

Six tests, including the BINL, BSM, and LAS, were reviewed by a Committee for the Evaluation of Language Assessment Instruments in June, 1979, for the Texas Education Agency (51). The criteria used included costs (associated with purchase, training of examiners, administering, and scoring); range (grade focus); normal language (with emphasis on qualities that would generate language); psychometric properties (reliability, validity); and test use (that is, did the data seem to permit the test user to decide the extent to which a child exhibits limited English speaking abilities). On overall test characteristics, the committee decided on a rank order of the tests but urged that the LEAs conduct local studies to determine how useful, reliable, and valid these instruments were for their uses. The members were very concerned that tests were being developed with inadequate attention to appropriate standards. The committee concluded that if it were to evaluate the six tests on the basis of standards commonly accepted in their profession (e.g., Standards for Educational and Psychological Tests), all tests would be judged inadequate by these standards and therefore, they would be unable to recommend the unqualified use of any of these measures.

The California State Department of Education itself formed an Instruments Review Committee in 1979-1980 to review English oral language proficiency instruments and to determine those for use during the 1980-1981 school year census. Contemporaneously, a committee was also formed to review entry and exit criteria and to submit recommendations on the subject. To ensure professional quality in both cases, experts in bilingual testing and practitioners in the field were selected for participation.

The Instruments Review Committee, after studying some nineteen instruments suggested by local districts, submitted its report in June, 1980 (31). Table 6 is a summary of the Committee's recommendations on the instruments reviewed.

As may be noted, all the tests were found to have shortcomings. Only two were given the rating of provisional acceptance. Based on the Committee's recommendations, the Department designated the following for use in the 1980-1981 language census (24):

- . Language Assessment Scales (LAS) I- use for grades K-5 only

- . Bilingual Syntax Measure (BSM)- use for grades K-2 only

Recognizing the difficulties raised by the designation of only two instruments and considering that districts had already made purchase and training commitments, the Department allowed the use of the instruments previously designated, but only for 1980-1981. The directive added that districts intending to use any one of the above four instruments must notify the Department of that intent. Similarly, districts desiring to select other instruments must submit a petition to the Department.

The committee on entry and exit criteria (formally designated as the State Bilingual Reclassification Committee) met on various occasions during 1979-80. The deliberations focused mainly on the use of multicriteria systems in the reclassification process. The instruments proposed were (22):

Table 6. Summary of Committee Recommendations for Instruments Reviewed

Name of Instrument	Provisional Acceptance*	Rejection	Not Eligible
BINL		X	
BOLT		X	
BSM I	X		
BSM II			X
CELT			X
CRANE			X
DAILEY			X
DEL RIO			X
DOS AMIGOS			X
IDEA		X	
ILYIN			X
JAMES			X
LAB		X	
LAS I	X		
LAS II		X	
LAU			X
OLE			X
SHUTT			X

*Further improvement needed.

- Norm referenced achievement tests, including tests of language arts, reading, and mathematical skills
- Subject or curriculum mastery as evidenced on a curriculum continuum
- Oral language proficiency assessment
- Teacher rating
- Parental opinion and consultation
- Writing samples assessing skills appropriate to age and grade level.

The committee submitted a final report, the exit portion of which was included in AB 507, passed in 1980.

More debate and discussion on language identification and proficiency assessment of pupils could only be expected in light of pressing concerns. Among scholars, the "fallacies" of current language proficiency testing, as well as entry and exit criteria, are beginning to surface. Cummins (41) and others (8, 33, 66) pointed out in particular that there had been a failure to adequately conceptualize the construct of language proficiency and its crosslingual dimensions. Cognitive/academic language proficiency should be differentiated and empirically distinguished from proficiency in basic interpersonal communication skills in both the first and second languages, although both types of proficiency are interdependent or manifestations of the same underlying dimension. Within this framework, a classification as "English proficient" on a natural communication task should not necessarily imply that a student has sufficient English proficiency to benefit from English-only instruction.

The call for more research into the instruments has produced some results. Every company reported that it was carrying out new studies of their psychometric properties, revising those already completed, and/or revising the instruments. Such activity is bound to result in improved tests. In addition, the State Department of Education commissioned a study of the four designated tests. Essentially, the study was to produce correlations among the classifications, which would give some cross instrument information when needed. Although the report on the study had been submitted, it had not been released yet to the public; therefore Development Associates could not examine it for inclusion in this report.

Summary, Recommendations, and Policy Issues

Interest in identifying children with limited fluency in English has increased since World War I and many instruments exist. Heightened awareness about languages and the need to provide better services to limited English speaking students increased in the late 1960s. The federal programs in bilingual education and the Lau decision guidelines were additional stimuli. Some California districts had performed identification activities previously but the first state census was not attempted until 1973. That partial count yielded about 190,000; the count in 1976 was reported at 291,000. Districts were paid on the basis of nearly 220,000 pupils in 1978. A review of the actual language census counts failed to show definitive trends over the period 1973 to 1978. While a small decline in the number of limited and non-English speaking students in the state could be inferred from the data, the Department of Education predicted a substantial rise over the next few years.

Legislation for uniform census procedures was passed in 1976 and reaffirmed threafter. To accomplish this end, the Home Language Survey was instituted to identify students from homes in which the members speak a language other than English. In 1977, the Observation Assessment Instrument was administered as a followup to determine each child's dominant language; limited and non-English speakers were to receive bilingual instruction. Both instruments were available in many languages. Little research on their reliability and validity was published but practitioners judged them to be adequate for their limited functions. Instrument development specialists noted many ways they could be improved. Suggestions for making the instructions more complete were also given, with the most important that of including material on establishing rapport.

The 1978 legislation changed the procedures from a dominance test to language proficiency measurement. Four were permissible for that purpose. None was produced in any language except English, Spanish, or Portugese; only one of the four measured any construct other than oral and aural usage. Published information about their qualities and practioners' reactions to them gave conflicting views. Further review of the tests found them lacking in some qualities and in need of further improvement. Since the instruments have only been recently in use, the experience base from which judgments could be made about them was limited.

It is important to note that concerns continue to surface regarding the "state of the art" in testing procedures. Obviously, much progress has been made in the construction of language dominance, proficiency, diagnostic, and achievement testing in the last decade. The statistical procedures used

> *in the classroom, other areas of the school, the home environment, and that these be organized into a systems approach.*

At least two have been practiced long enough to provide some evidence of their usefulness: that used in the State of Hawaii and that being given a trial in the San Jose Consortium. Others no doubt exist and should be examined. Each of these, depending upon the grade of the child, combines evidence from an entry test of language functioning, teacher observations, parent recommendations in some cases, achievement test results, and sometimes examination of some of the student's products in the learning process. Such a procedure occupies more time and thus becomes more costly in terms of personnel. Obviously, the entire process need not be carried out for every child since the evidence from the first two elements may be so overwhelming that no doubt remains. The process becomes more important for making the decision about exiting a child from a program; if the entry and exit assessments are parallel, and the entry information is utilized to shape the curricula and methodologies by which a child is taught, the system has a reasonable opportunity to affect the outcomes.

By the time Development Associates began the study, the Observation Assessment Instrument and the Home Language Survey were "well entrenched," and local district personnel had received a fair amount of training in their use. They had been administered to large numbers of children, with little resistance offered to their administration. Limited criticisms had been directed toward certain parts of the tests, especially certain translations. However, their usage in 1977 marked the first year that the census and assessment procedures were fairly universal throughout the state.

Several months later, the testing was changed to language profciencey. Again, few complaints were raised about the instruments themselves; this finding held true for the teacher interviews conducted by Development Associates during the 1979-80 academic year. The questions that were raised about the tests concerned whether they met the legal requirements, the fact that they were only available in English and Spanish, and the increased administrative costs. There was a unanimous complaint, however, about changing the assessment one year after another procedure had been instituted and with no lead time to prepare for the new type of testing. These, then, suggest another policy issue:

> *Policy makers should be very cautious about changing from one test to another unless overwhelming evidence demonstrates that the new instrument is clearly superior to that already in place.*

In this regard, the development of instruments should consider opinions of bilingual educators and district needs in accordance with the Lau decision and requirements. The needs of smaller language groups should also be taken into account. Priority should be placed on those needs that are closest to being met due to costs involved. The reliability and validity of instruments are important and state officials must assess and re-asses these properties. That process may result in changes.

to norm the items within the domains and the inclusion of wider student populations within the norming groups have made their results more generally reflective of the composition of the nation's pupils.

Nevertheless, every reliable review of any of these tests will emphasize that there is a great deal about such tests, their administration, and interpretation that is still largely unknown. The psychometric properties of most tests, especially the reliability and validity, are questioned by some scientists and practitioners. In the past, practitioners have largely relied on the research work performed by test makers for information about the psychometric properties - education is increasingly worried about the data these provide. And the use of almost any of these instruments with limited English proficiency students has been severely criticized for some time.

Probably the one thing that independent psychometricians would agree on is that no ONE test is going to provide all the answers needed about a student's ability to function appropriately in English.

This fact is generally recognized by test publishers who caution educators against reliance on one instrument as the sole indicator. Many of the classroom teachers interviewed for the study also pointed out problems with the assessment procedures in terms of proficient and/or highly intelligent children who had been wrongly placed into the limited or non-English speaking categories on the basis of a single judgment. While sometimes the pressures on legislators and local educators are such that they seek an easy and hopefully absolute answer about each child, adequate assessment of a child's abilities in any language requires more than one measure.

This state of the art review, then, leads to a series of implications for policy makers regarding the assessment of the ability of students to function in English and any other language:

> *No test now in existence demonstrates the psychometric properties necessary to rely totally on its results for every child and for every language group, whether the desired outcome is language dominance, proficiency, diagnostics, or achievement.*

Some have been shown by independent research to possess the needed qualities more than some others and that research should be consulted when a test is being chosen. Even the best, however, have many deficiencies. Many psychometricians and practitioners recommend that:

> *At the present time, the best assesement procedure is one that incorporates more than one measure of the student's functioning ability: usually the administration of a standardized test, observations of his language interactions*

Detailed examinations of any such inclusions should be made to determine how they will affect the practitioner and consequently the child.

California policy makers have seriously attempted to identify those children that need special services and then to provide those services. An examination of the history of the language census procedures, however, shows that change after change after change has occurred. Some of the changes do not appear to have appreciably enhanced the state's capability to identify the target children nor to necessarily serve them better, sometimes from the content of the change and frequently from the lack of time to implement the change. Changes will be needed. Both the nature of the change and its timing are worthy of careful consideration when policy is being formulated.

Cost factors are important to districts, as these costs must be borne by local budgets. The dominance tests could be duplicated locally and administered in 10 to 15 minutes. However, the language proficiency tests are copyrighted and must be purchased commercially; in addition, administration time invariably increased to 20 to 35 minutes. Good diagnostic tests are likely to be even more expensive and require two to three hours to administer. These costs, in relation to the benefits to the child's instruction, must be examined in light of the amount of money that is available and where it can best be used. In any event, those costs and benefits are not the only outlays necessary.

The Department of Education needs time to study alternative instruments and make the best possible recommendations, to prepare the instructions to the districts, and to prepare and conduct the necessary training. The test must be administered and interpreted properly so each child benefits from the subsequent instruction. District personnel need training if they are to conduct the testing in a manner that will obtain the best possible results within the funds available. Test administrators must be adequately prepared so that they are able to develop sufficient rapport with the child to enable him to respond to the best of his ability.

> *Any substantial change in the instruments or the procedures must be accompanied by the appropriate training of the personnel needed to administer and interpret them or the change will result in inadequate assessment, placement, and instruction.*

No test is impervious to its administration and interpretation. No test results, of themselves, can guarantee proper placement of the child and optimum instruction.

Other influences impinge upon tests and testing: the Office of Civil Rights, the *Lau vs. Nichols* remedies, the demands of other programs, particularly federally funded projects. These need to be considered so as not to cause confusion, multiple testing, loss of instructional time and other resources, and frustration. The California laws have provided for alternative testing under certain situations and that policy should be continued when reasonable conditions permit.

Sometimes, too, what appear to be minor requirements in a policy may have undesirable effects and add to the burden and frustration of districts. Testing in October when school begins in September, thus requiring duplicated efforts and higher costs, is one example. Failure to provide for increased costs, or unclear guidelines about the costs, may result in reduced funds for the instruction of the pupils and resistance to the change, even when it may be an improvement. Requiring a kind of test for which few if any instruments have been adequately developed and researched, or for which versions in some important languages are not available, lead to the disillusionment of the personnel attempting to implement the policies.

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CHAPTER III: SURVEY OF THE INSTRUCTIONAL COMPONENTS LITERATURE

The modification of the plan for the three year study of services to limited and non-English pupils in California, noted in the first chapter, called for research into the promising practices in bilingual education. Development Associates presented a feasibility proposal to the Advisory Committee and Consultants, outlining study approaches that might be considered. An information sheet furnished by the California State Department of Education guided the preparation of the proposal:

> It is generally recognized that bilingual education is today at a very early stage of development. Recent studies have tended to show that bilingual education is not necessarily ineffective as a theoretical methodology -- but rather that the way in which it is implemented in many places does not measure up to the instructional theory on which the program is based. What has most often been missing in studies of bilingual education is an indepth look at the kinds of instructional methodologies that have been implemented, and whether or not they bear any relationship to empirically based instructional techniques that are known to be effective in teaching children with primary languages other than English. In short, there is a critical need to identify and empirically validate effective bilingual instructional techniques so that these may be communicated to districts and schools that are searching for such techniques.
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> This study will be carried out in three phases. Phase I will involve a detailed review of available research on bilingual instructional methodologies, with the objective being to isolate techniques that seem effective or at least promising. Phase II will involve identification and detailed study of at least 15 effective bilingual education programs in California and elsewhere in the nation. The assistance of the USOE - Office of Bilingual Education will be enlisted in this effort. Study of effective programs will involve site interviews, examination of materials, and observations of teacher practices in classrooms using an instrument adapted from Jane Stallings' Elementary Classroom Observation Instrument developed at SRI International. Phase III will involve analysis and synthesis of all data collected, and preparation of a report detailing effective bilingual education instructional approaches and policy recommendations related to these approaches. The information gathered will, of course, be made available to local districts and schools to assist them in improving their own programs.

At the general conference on the LES/NES study held in Sacramento on August 9-10, 1979, Development Associates formally presented a draft proposal for the feasibility substudy. After careful scrutiny of the proposed research design, the advisors decided that the study should not be a separate project; rather, it should be incorporated as a section of the LES/NES study. It was also agreed that Phase I (pertaining to the literature review) be shortened and more time shifted to field study. In addition, the scope of the investigation would be directed mainly to the elementary level. The review on bilingual instructional practices would identify what specific behaviors or practices related directly to effectiveness. It would add to the general LES/NES study by strengthening the knowledge about what is actually going on in the schools. Accordingly, these modifications and suggestions were taken into account.

Bilingual Instructional Components

Much of the literature about bilingual education concentrates on the philosophical issues - why bilingual education should be provided - typified by Anderson & Boyer (10a). Similarly, the second most prevalent literature presents information on why monolingual education has failed to meet the needs of bilingual children. Third in volume among the printed materials is a series of technical treatments related to how bilingual children learn. Bilingual education approaches, methods, and techniques occupy some published space as specifically designated topics, but the three are usually comingled into descriptions of a model or into a generalized process of providing education.

Education theorists such as Taba (263), Oliver (223), and Maclure (195) have usually, but not always successfully, differentiated among the terms *model*, *approach*, *process*, *method*, and *technique*. *Model* is normally reserved for a *package* that spells out the approach, process, methods, and techniques, as well as providing the materials to be utilized and sometimes even the tests to be administered. The Southwest Educational Development Laboratory Spanish/English model (256) for kindergarten, first, and second grades is one of the better known of those that supply literally everything, including the teacher training, supervision, and evaluation. This model, and most of those investigated in Stallings (259), are often referred to as programs because of their completeness and complexity.

The term *approach* is also applied to somewhat complex sets of instructions about how and what to teach. While they may discuss the processes of classroom management and instruction, their primary aim is to combine a series of methods and techniques into a system. They may utilize a highly itensified mode of teaching such as that in the Corpus Christi (Texas) Region Service Center's "Rock n' Roll" (270), language continua as in the San Diego (California) City Unified School District system (247), or the English as a second language programs in many sites. Approaches are sometimes called *strategies*, as evident in the Cortes (82) publications.

Process is usually used to describe a set of teacher behaviors in instruction and classroom management. It is expected to produce a specific classroom climate or environment, in most cases, that is independent of the approach, method, or technique. The Piaget oriented instruction described in Lavatelli (181), Mager's instructional objective (200), and the bicognitive styles proposed by Ramirez, Herold & Casteneda (239) are typical. The word *styles*, as used in the latter citation, usually indicates a process as its major thrust.

Method or *methodology* is generally a smaller unit of scope within instruction although bilingual education is sometimes labeled a method. Its most common usage is that employed in Gage (128), Knight et at (172), and Stufflebeam et al (261) to differentiate among "the discovery method," "experimentation," "work attack skills," and "concurrent Chinese/English instruction." A method may be incorporated into a model or approach, and may consist of several techniques in the implementation of the teaching/learning effort.

Techniques are still more discrete and specific. "Discussion," "question/answer," "story telling," "memorizing the multiplications table," and "current events" are well known examples. Few, if any, techniques are unique to bilingual education; most often they are adaptations from general education techniques and specify the language or languages to be used, how much to use, and when to use them. These adaptations are important, however, and their identification within bilingual education, especially in concert with certain methods or approaches, is said to characterize "good" bilingual techniques. Some, too, have become highly developed within bilingual education and are more frequently employed there than in other types of education. Unison recitation, language experience creations, and certain pronunciation drills adapted from speech therapy are among these.

Much of the literature purported to be one or another of the previous terms should properly be labled *activities*. Games, tongue twisters, and reading a story are among these. In a few instances, an activity has been developed sufficiently so that it constitutes a technique; noteworthy among these is a very structured use of singing to obtain improved language phrasing, pronunciation, and accentuation. In the most prevalent usage, however, a song is an activity.

As this discussion suggests, considerable confusion about the terms exists in bilingual education. It should be pointed out, however, that the same confusion is present in the literature about monolingual education. Some of this confounding of terms comes from the lack of specificity in writing, some from conceptual inaccuracies, and some from trying to create a label that will make the author's ideas "memorable." The primary factor, though, is that no one of the sets or elements exists in isolation - they all exist in combination with others. Gezi (134), in his review of research, and Lamm (177), in his treatise on conflicting theories of instruction, both emphasized this point.

Independent research into methods and techniques has seldom shown consistent and/or persistent increased student achievement. Intensity of exposure to instruction as an approach, and amount of teacher response and reinforcement as either an approach or a process, have sometimes resulted in greater achievement. Some models that combine these and other instructional components into systems have produced measureable increases. Some programs in the Stallings study met this criterion.

Most of the reported research, however, has concentrated on bilingual education per se, without specification of the approaches or methodologies. Many of those reported in Troike (281) and the Santa Fe Title VII study (216) are in this category, although the latter began as a fairly structured model.

Since the information provided by the California Department of Education used the terms approaches, methods, and techniques, and because research has also found some differentiation among models and processes, the study allowed for any of these in the investigation. Development Associates, therefore, proposed an open ended strategy allowing the inclusion of any promising component in at least the initial phases of the research.

Research Approach

Development Associates was guided by the following portions of the required elements listed in the California State Department of Education flyer:

Phase I:	Detailed review of available research on bilingual instructional methodogies (literature review).
Phase II:	Identification of selected effective programs in California and a detailed study of their components (field study).
Phase III:	Report of the findings and descriptions detailing effective bilingual instructional approaches and policy recommendations related to these approaches.

Phase I is reported in this chapter. Phase II is detailed in Chapter IV. The findings from Phase III are included in Chapter VI.

Development Associates completed Phase I of the study and reported the results in *Interim Report IV*. (93) The procedures and steps followed in completing the literature review included the sources of materials, the methods for analyzing them and a brief description of the information generated.

The major sources for the review included:

- Card catalogues of libraries for textual materials
- Bibliographies on bilingual education

- Dissertation Abstracts
- Readers' Guide to Periodical Literature
- Current Indices to Journals of Education
- ERIC search for program and research descriptions according to 16 descriptors
- Education Index
- Publications by state and regional associations
- Teachers' guides to textbook series, and
- Program descriptions collected by Development Associates

Three instruments for the literature review were devised: one for general treatises describing practices, another for research/evaluation materials, and the third for composite reviews. (A copy of each of these instruments was attached in Appendix B of *Interim Report IV* (93) and is included in *Volume III* of this final report.) These three categories of publications were arbitrarily made to aid in their storage and in the preparation of the final review. The most appropriate form was used for materials that did not fit one of these with corresponding labels to describe them. Completed review instruments for each material examined are in Development Associates' storage file.

The depositories and libraries covered by the review included mainly the Teachers' professional library of the San Francisco Unified School District, the University of San Francisco, the University of California in Berkeley, the San Francisco State University, and the Far West Laboratory for Educational Research and Development. The ERIC search was made through the Far West Laboratory, using 16 descriptors to achieve a more comprehensive and concentrated listing. Relevant materials in the laboratory's microfiche collection were then examined. The Laboratory's files on Education Indices, Dissertation Abstracts, and International and Current Index to Journals of Education were also scrutinized and checked against the files of the other depositories. Additional materials for the search came from the National Dissemination and Assessment Center at the California State University in Los Angeles, and also from the Federation Bilingual Training Resource Center (East Texas State University), Texas Education Agency, the San Diego City Schools, and the National Association for Bilingual Education (NABE). The main office of Development Associates in Arlington, Virginia, also provided assistance in the search.

The thrust of the review was the identification and description of promising instructional practices for providing education to LES/NES pupils. This did not mean, however, that a practice had to be exclusive to bilingual education, English as a second language, or primary language instruction. The practice must have been used in an educational program for LES/NES students. Thus, ESL, which was not included in teaching LES/NES students, K-12. was not included. Teaching oral/aural Spanish (or other language), or Spanish as a second language to an FES component, and Spanish within a bilingual setting were reviewed. Any program that used the Piagetian principles with K-12 LES/NES students was included. Similarly, programs designed to raise the self-concept or improve the attitudes of LES/NES students were reviewed.

It was relatively easy to identify research or evaluation that specifically measured (or was to measure) the results of bilingual education. Some others, however, were less obvious. In these cases, efforts were made to include any specific strategy to identify the promising practices, to specify characteristics related to effectiveness, or the treatment of scores on a test directly intended for bilingual education. Reviews of tests, even though for bilingual pupils, if not related directly to instructional practices, were excluded. Finally, such elements in a program that might relate very directly to instruction, e.g., counseling, parental involvement, community liaison, social work, staff development, and team approaches, were checked to verify those specified as relating to instruction.

A great deal of duplication was encountered among the various sources. It was necessary to sift out variations in titles, labels, and terms so that the final descriptions were those of differentiating components. Similarly, many of the items within the descriptions simply represented what was understood as "good educational practices." Accordingly, these were included only when pertinent to bilingual education.

Subsequent to the publication of *Interim Report IV* (93) other materials were published or found. Those were integrated into the appropriate section and thus this chapter is an updated version of *Interim Report IV*.

Literature Review

Reading materials dealing specifically and solely with classroom instructional practices in bilingual education were difficult to find even though literature on bilingualism and bilingual education has grown to more than 20,000 references (11). Frustration over this gap has been expressed in general reviews. Ramirez et al (237), in updating their 1974 study, observed that in spite of all the time, money, and effort devoted to research on bilingualism, only a few of the results have any bearing on the school situation. Most of the research focused more on the nature of the bilingual phenomenon itself and the investigation of the problems that occupied much of the attention of scholars (e.g., interference dominance, storage, relation to IQ), shed but little light on the advantages or disadvantages of a particular approach in the classroom. Troike & Perez (282) stated that although ten years have undoubtedly produced some progress in bilingual education, the development of the field generally has been cumulative and the state of the art remains "depressingly primitive." Blanco (27) pointed out in 1977 that there was virtually no published information available on classroom practices.

General Perspectives

This review was an attempt to assemble from current literature whatever is available on instructional practices in bilingual education. It is anticipated that they are either scattered or comingled into descriptions of a model or into a generalized process of providing education. Smith & Caskey (255) in 1972, compiled promising school practices for Mexican Americans based on information and program descriptions supplied by some 100 responding school districts in the Southwest. Seventy-four authors and coauthors submitted reports dealing with readiness and orientation, language development, bilingual instruction, English as a second language, oral language, and reading programs. Special topics dealt with migrant programs, parental involvement, self concept, enhancement, special education, and research studies. Information relative to specific practices, however, was scarce and intermingled with the other materials.

Some of the programs reviewed by Smith & Caskey (255) emphasized preschool and readiness activities. Others stressed modifications and revisions in first grade curriculum content and processes. Still others combined both practices. A number of projects implemented programs for bilingual students in the primary grades and an ESL program to develop English skills. A fairly common set of practices was to develop skills through experiences for students on extensive field trips to historical and cultural centers. A program in California combined flexible scheduling, team teaching, and individualized instruction. Several schools near Las Cruces, New Mexico, were involved in "Project Move Ahead," which utilized educational radio, differentiated staffing, and parental involvement as tools of language development. A program model in the Anaheim Elementary School District in California used a "team approach to language development" based on prescribed basic activities. A three-faceted bilingual education program in Phoenix, Arizona, involved an English oral program, a Spanish oral program, and a Spanish language arts program. Project Follow Through is a program designed to continue the benefits from Head Start to an elementary school in Corpus Christi, Texas (and many others, including several in California), using both the bilingual and the ESL approaches.

One project summary described the utilization of a bilingual teacher as a resource teacher working in the regular classroom with from one to five students with English language deficiencies. The goal was to develop English skills so that the students could progress in the regular classroom. An important feature of the program was its emphasis on parental involvement in the instructional process. A comprehensive bilingual education program in San Marcos, Texas, stressed instruction in both Spanish and Egnlish, as well as appreciation of the Mexican American cultural heritage. A similar program in the Del Valle Public Schools, utilized instruction in both Spanish and English for Anglo, Black, and children of Mexican American descent. A comprehensive bilingual education program in San Francisco, California, followed similar practices for Mexican Americans, Mexican immigrants, Cubans, Nicaraguans, and others of Latin origin.

ESL program practices cited in Smith & Caskey (255) included oral language development, a voluntary reading program, bilingual classroom teacher aides, an informal parent-teacher program, and extensive oral language aids. The need for continual evaluation and improvement of ESL programs through procedures providing continuous feedback was emphasized in the Los Angeles schools. In Douglas, Arizona, five to seven year old Mexican American students participated in oral language programs for approximately 25 minutes per day for the entire school year. The Southwest Cooperative Educational Laboratory Oral Language Program materials were used to supplement the regular instructional program. Pomona emphasized the integration of ESL materials in the regular classroom and the utilization of readily available teaching aids. An innovative feature was the introduction of the parent into the project's evaluation process with the classroom teacher.

In reading programs, the practices of teaching the child to read first in his native language was being utilized in the Corpus Christi. Texas, schools. The Lamesa, Texas, schools emphasized individualized reading programs for fifth and sixth grade Mexican Americans. Reportedly, this had the merit of being readily adaptable to any classroom by the regular teacher. Most reading programs stressed remedial aspects. This was particularly the case in the Douglas, Arizona, and San Ysidro, Texas, schools. A unique feature in the latter was the involvement of the Neighborhood Youth Corps and the implementation of a youth-tutoring-youth element. An unspecified multi-faceted approach to developing reading skills of Mexican American students was being pursued in Gilcrest, Colorado, utilizing materials which were normally available in the elementary classroom.

Practices in migrant programs designed to provide meaningful school experiences for migrant children included: 1. a shortened school year coordinated with the time when most of the migrant families were at work; 2. bilingual instruction; 3. multi-level classes; 4. team teaching; and 5. differentiated staffing. A program in Moriarty, New Mexico, utilized tutoring services, with the tutor working closely with counselors and teachers in order to provide the maximum amount of help in the short period of time the students attend school. There usually was an extensive inservice education for teachers in migrant programs and the goal was to provide "more relevant" educational experiences for migrant students through a change in teacher behaviors. Counseling and guidance programs were conducted to facilitate cognitive and affective development, and stressed cultural awareness. The program for migrant students in the San Joaquin Valley, California, was the regional concept, including three counties in the same agricultural region that had a similar migrant influx on a seasonal basis. A multi-level program from day care age children to adult education was offered at educational centers near the migrant camps. These centers provided special assistance to school age migrants in the evenings and during the summer.

In parental involvement projects, steps were taken to communicate the objectives of the school to the community and to solicit parental support for existing programs. This also implied listening to the community, implementing change based on the community's needs, and making better use of the human resources in the community. A parent involvement program in the Denver, Colorado, area was described as *Trotaconventos* (the Go-Between). Based on a "re-educative model," it used paraprofessionals from the community on the project team. A parental involvement program in San Jose, California, developed projects that involved the community. Sustained primary programs for bilingual students involving parents existed in Las Cruces, New Mexico. A prevalent practice was the use of non-credentialed community personnel in a variety of ways to bring about better school community understanding.

Development programs for self concept enhancement were conducted to make students feel "worthy, acceptable, valuable, and capable." For the elementary school children in particular, these programs emphasized affective development in conjunction with cognitive development. A program in Las Cruces used the Human Development Program materials.

Special programs were conducted by schools to meet the special needs of a small ethnic group within the general student population. These may have included a student aide program during the summer months, a mathematics program, an arts and/or crafts program individualized instruction, and special programs in academic essentials, reading, ethnic studies, counseling, and teacher inservice training.

It is apparent from this introduction to a frequently cited review of materials on bilingual school practices that there is a need not only to search through literature and general program descriptions, but also to sort out and classify practices in order to arrive at a meaningful review. The use of terms such as model, approach, or strategy, process, methods, and techniques was confusing, even chaotic, in the literature on bilingual education. Almost every construction of thought in providing education to target student populations was indiscriminately if not promiscuously referred to through one of these terms. They were often used interchangeably or simultaneously in the same sentence or paragraph to describe a specific practice. This intermingling of terms is unfortunate for those who consult the literature.

To avoid confusion, this review was guided by the categorization of practices and definition of terms previously defined. As appropriate, it will resort to open ended discussion in order to allow inclusion of practices even when they do not fit a particualar category.

The first portion is a cursory review of program structures or types of bilingual/ESL programs that abound in the literature. Although these are more management and organizational designs than instructional practices per se, they provide the general setting for the development of objectives and the selection and use of apriate teaching models, approaches, or strategies in classroom instruction. Hence, their inclusion in this review would be useful for background knowledge and understanding.

Program Structures: Theory and Practice

Theoretically, there are infinite possibilities in program designs for bilingual education. Mackey (194) gave a detailed description of a variety of these designs revolving around the distribution of the two languages throughout the learning experience, both structured and non-structured, resulting in a number of different patterns. They varied as to: 1. medium of instruction, 2. development, 3. distribution, 4. direction, and 5. change. A school may have a single or dual medium of instruction. The developmental pattern may be the maintenance of two or more languages, or of transfer from one medium of instruction to another. The distribution of the languages may be different or equal. The direction may be toward assimilation into the dominant culture or toward acculturation and the change from one medium to another may be complete or gradual.

In terms of goals, or development in time scale, the most popular designs and types of practices were: 1. facilitation, 2. transition, 3. maintenance, 4. enrichment, and 5. individual learning plan, in accordance with the categories of programs under state law AB 1329 in California. Since these are widely known and covered by readily accessible literature - Saville & Troike (248), Fishman (122), Thomas (272), and in the Development Associates' *Interim Report II* (91) - their discussion in this review, however brief, would be repetitive. In any event, refreshers on them will be evident as the discussion proceeds.

Federal law provides the transitional type. State laws also prescribe the same type for Arizona, Colorado, Connecticut, Illinois, Massachusetts, Michigan, Minnesota, New Jersey, New York, Oregon, Rhode Island, Texas, and Wisconsin. Both the maintenance and transitional types are provided in the laws of Alaska, Hawaii, and California. Louisiana law prescribes only maintenance. The laws of Indiana, Maine, New Mexico, and Utah do not state the type of bilingual program to be established, according to Irrazary (158). In general, however, the laws appear to accommodate variations in actual practice, or else officials do not worry about compliance.

Since the term bilingual education means the use of two languages as media of instruction, bilingual programs can be developed in a wide variety of organizational patterns. Lopez (191) used the term "approaches" in describing these patterns, using Spanish as an example:

1. Alternate day approach: Instruction is given in English one day and in Spanish the next.
2. Alternate discipline approach: Instruction is given in Spanish in one subject and in English the next. All subjects are taught in both languages.
3. Alternate half-day approach: Half the day is spent in English and half the day in Spanish.

4. Alternate week approach: Instruction is given entirely in Spanish one week and entirely in English the next.

5. Immersion approach: The student is totally immersed in one or the other language for six weeks at a time or even longer.

Gradisnik (141) mentioned the following models for programs of bilingual education from which school districts might choose:

1. Self-contained classroom: One bilingual teacher is assisted by a bilingual aide. This was considered a most desirable arrangement.

2. Team-teaching: Two teachers, one bilingual and one monolingual, pool their teaching strengths. Such a program provides for flexiblily, individualization, and opportunities for large group interaction.

3. Integrated full-day program: Pupils from different classes were "pulled out" and given special instruction in subjects by a bilingual teacher.

4. Departmental model: In this model, popular at the junior and high school levels, students received instruction in subjects from different teachers in different languages (or bilingually) in different classrooms. Integration with other students was seen as essential.

5. Monolingual teacher assisted by a bilingual aide: This teaching model was considered the least desirable.

6. District wide center for newly arrived non-English speaking pupils: School systems faced with the problem of providing "transitional bilingual education" for children of ethnic and minority language groups that are small in number might consider establishing a center as a "magnet school." Successful district wide newcomers centers were cited in the Milwaukee Public Schools and in the San Francisco Unified School District.

Gonzalez (139) reported five major types of bilingual programs in the United States:

Type A - English as a second language (ESL)/bilingual: This is a transitional and strictly remedial and compensatory education program.

Type B - Bilingual maintenance: This program sees the student's fluency in another language as an asset to be maintained and developed.

Type C - Bilingual/bicultural maintenance: This is similar to Type B, but it also incorporates "history and culture" of the target group as an integral part of curriculum content and methodology.

Type D - Bilingual/bicultural restorationist: This type makes a strong attempt to restore to children the option of learning the language and culture of their ancestors which may have been lost in the process of assimilation. Sometimes called a language revitalization program, it is usually proposed for American Indian groups. In bilingual programs of this type, those in the community who still speak the ancestral language are called upon to teach it.

Type E - Culturally pluralistic: Multicultural education is emphasized. Students are not limited to a particular target group. Rather, all students are involved in linguistic and culturally pluralistic schooling. The program expands the theme of bilingual education and seeks to teach all students, whether in monolingual or bilingual programs, something about the major ethnic groups in America and their contributions to the United States. The stress is on the more usable or outward manifestations of culture in order to instill appreciation of different styles and ways of life. Broadly, this may include second language instruction. These are programs for students studying a language which is not their primary language, e.g., English speakers being taught Spanish or Tagalog. These are usually found in conjunction with enrichment programs but sometimes with regular programs as well.

Cordasco (81), in his survey of bilingual schooling in the United States, identified a number of bilingual education organizational patterns: Model I prescribed equal division of instructional time between the first language and the second, e.g., first language in the morning and second in the afternoon. Model II offered instruction in both languages for approximately the same amount of time, but any time block might contain the two languages used in an integrated or blended manner. This maintenance of first and second languages is also called the "dual model." Team teaching method is used mainly in this model. In Model III, instruction is initiated totally in the first language and the second is introduced gradually. As mastery is achieved in the second, less and less time is devoted to the first. Although the first language may be presented as a subject itself in the curriculum, any other content areas could be selected to continue instruction in the first language. The program is basically transitional. Model IV is predominantly in English. Other languages are taught as subjects or are used for instruction in other selected content areas.

Some program designs were more specific as to curriculum patterns. A bilingual program in New Mexico (218) was described as an acculturation design in which the language and the culture of the child were used as "conceptual bridges" for an all English curriculum. Non-English language subject matter teaching did not exist and the percentage distribution of time in the use of the two languages as media of instruction by grade was as follows:

K	50% vernacular, 50% English
1	25% English as a second language 25% vernacular (for basic concepts in math, science) 50% English language arts
2	25% vernacular for basic concepts 75% English content and language arts with possibly 10% for an ESL oriented component
3	Everything taught in English
4-6	Everything taught in English with non-English language period 45 minutes daily

The State of New York provided four types of program structures described as (299):

1. Full bilingual program: This started with grades K-1. The major portion of instruction was in the native tongue, and amount of time for the second language English increased as the year progressed. By the end of the second or third year, there was equal amount of instructional time in learning both languages.

2. Modified bilingual program for K-Elementary: Learning experiences in all major subject areas would be in the native tongue with 20-30 percent of the day devoted to instruction in English as a second language. The "contact" time with English gradually increased as the year progressed.

3. Modified bilingual program for intermediate and upper grades (Spanish emphasis): The learning experience was in Spanish for the major subject areas, including Spanish language as a subject, with 10-20% of the day's time devoted to learning English.

4. Modified bilingual program for intermediate and upper grades (English emphasis): Sixty percent of the day was spent on ESL; 30% for mathematics, science, and social studies in Spanish; and 10% for Spanish as a first language.

The New York design included ESL and regular classroom programs mainly where LES/NES students belonged to different language groups within the same classroom or for those whose parents did not authorize bilingual education. The LES/NES students received instruction in English for most of the day and were in classes with their English dominant peers the rest of the day. The emphasis was on audiolingual competency in English as it related to curriculum content. For the lower primary grades, the total ESL immersion program was preferrable. Here, learning experiences in ESL were conducted for 80% of the day, 10% in the native language for the major subject areas, and 10% for joint participation in other school programs and activities with English dominant peers. The entire design, which could be classified as a maintenance program, went further to prescribe the instructional time ratios for native and second language instruction, ranging from a ratio of 85/15 in kindergarten to 50/50 in sixth grade. The maintenance model program in part of New York City (243) was also reported as successful.

McDivitt (202), in exploring the needs of Puerto Rican minority student populations in Pennsylvania, presented the following features of a bilingual education program for grades 1-6: team teaching, two way maintenance bilingual programs, affective education activities, group and individualized instruction, contact with parents of both dominant and minority cultures, field trips, and program planning activities. While the author discussed these generally, the exact practices were not described.

Program designs in California were reported in forms other than the widely known types. Alexander & Nava (5) said the following program structures existed:

Model I - Monolingual teacher and bilingual aide. Here the methods used were translation, concurrent use of first and second language, and preview/review.

Model II - Team teaching via a monolingual English speaker and a bilingual teacher (both with bilingual aides). The authors referred to this arrangement also as dual model.* The methods used were preview/review and immersion, i.e., the group with monolingual teacher received instruction only in English and the group with the bilingual teacher received instruction only in the non-English language.

Model III - Fluent bilingual teacher and aide. The goal was to achieve full bilingualism and the main teaching methods were concurrent use of both languages, immersion, and eclectic (combined approaches).

In these designs, ESL was described as a bridge to a full bilingual curriculum program. Within this framework, the San Diego City Unified Schools (149), as an example, prescribed six bilingual designs (referred to as models) for elementary schools (247):

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*As indicated previously, the term "dual model" is also used when both languages are used and maintained by the program.

Limited and Non-English Speaking Students at Each Site	Program Model	
	Organization	Curriculum Program
10 or more non-English speaking, or 15 or more limited and non-English speaking students of the same primary language and in the same grade or existing multigrade	Full team teaching, or	Full bilingual
	Limited team teaching, or	Full bilingual
	Self contained classroom, or	Full bilingual
	Immersion	Full bilingual
5-9 limited and/or non-English speaking students of the same primary language in any grade or existing multigrade.	Self contained classroom, or	Partial bilingual
	In-school language center	Partial bilingual
4 or fewer limited and/or non-English speaking students per language group	Multilingual instructional center	Partial bilingual, or Individualized program

In full team teaching, the monolingual English teacher (regularly in charge of a class of approximately 30 FES students) and the bilingual teacher (in charge of an adjacent class of approximately 30 LES/NES) team taught during the entire school day. The students in both classes experienced three learning situations daily -- primary and second language instruction and instruction in mixed groups. The limited team model was designed for schools that wanted a sequential bilingual program but did not have enough students for the full team model. It was also for schools where teachers were unable to team for the entire day. The self contained classroom model was for schools whose number of LES/NES students fell below the requirements for the full team teaching model. Ten or more LES/NES students were programmed into a single or multigrade classroom with the remainder of the class being filled by FES students. The model was also used where there were five to nine LES/NES students of the same primary language in a single or multigrade classroom. In this case, the school may implement the partial bilingual curriculum program. The immersion model placed FES students with LES/NES classmates and immersed them in the primary language of the LES/NES students for as much as 90% of the day. It was designed to meet a demand by parents of FES students for an intense cross cultural experience for their children. The instruction for the LES/NES students was similar to the curriculum and division of time for a full bilingual program, with slightly less English instruction at the beginning levels. The in-school language center model (a partial bilingual program) was designed for schools with five to nine LES/NES students in one primary language, where bilingual staff in the necessary languages might not be available. It established a language center for "pull out" instruction in the students' primary language. The multilingual instruction center model was designed for sites where there were several language groups of four or fewer LES/NES students in each group. Each of these briefly described program designs of the San Diego schools was accompanied by sample time and subject schedules and divisions of instruction time in each language from grades K to 6. Preview/review teaching and alternate use of the language by day or week were emphasized.

Until recently, bilingual programs in California were designated by law as partial bilingual, full bilingual, and bilingual cross cultural programs (35). Under AB 507, approved on September 30, 1980, these were superseded by the following program options (38):

1. Basic bilingual program: This is a system of instruction which builds upon the language skills of the pupil and which consists of a) an English language development component and b) a primary language component for basic skills until the pupil makes a transition to English.

2. Bilingual-bicultural education: This uses two languages, one of which is English, designed to enable the pupil to achieve competency in both languages.

3. Experimentation programs: These are either innovative or planned variation programs which must meet prescribed criteria developed by the Department of Education.

4. Secondary level language learning program: This provides a prescriptive English language program and a primary language instructional support to sustain academic achievement in content areas.

5. Secondary level individual learning program: This is an individualized systematic program of instruction designed to develop individual pupil's proficiency in English.

6. Elementary level individual learning program: This is also designed to develop individual pupil's proficiency in English at the elementary level.

Program designs for the early elementary grades (K-3) in bilingual bicultural instruction in Michigan were presented by Katra & Cline (169). In the kindergarten model, the regular teacher and the bilingual teacher team taught in one classroom. Both the first and second languages were utilized as the media of instruction. The two-teacher model involved two separate classes, each with a minimum of one-third non-English dominant children. Language grouping could occur 64% of the time when the English dominant children of both classes met with a regular English teacher and the bilingual students met with a bilingual teacher. This model was designed for maximum native language instruction and was supposed to be economical since it involved no additional teachers. In the shared model, a bilingual teacher worked in two separate classes with half a day in each. In the bilingual aide model, the regular teacher was assisted by a full time bilingual aide in the classroom. Native language instruction was almost entirely restricted to tutoring by the aide.

Until recently, the Texas Education Agency State Plan for bilingual education (grades K-5) encompassed three curricular elements: English language arts (ESL); language arts in the children's first language; and the required subject matter (i.e., mathematics, science, and social studies) in both languages. Language arts instruction was geared to the level of language proficiency in each of two languages (111, 231). In June, 1979, policies were revised. The new law now required school districts to provide special language programs for LES/NES children from K through 12. This included implementation of a full bilingual program for grades K-3, an optional program for grades 4-5, and English development programs for grades 6-12, depending on the need. (253, 222)

A summary of the New Bedford Project for NES children in Massachusetts (81, pp. 256-59) shows a pattern of ungraded classes and provision of a tripartite entry into regular classes. The first stage provides for ungraded school related NES classes, and instructional efforts stress diagnostic, remedial, and cognitive/concentrative activities. The second stage is for ungraded transitional placement. The third stage provides for graded classes and a NES learning center for coordinating efforts and evolving a curriculum for the NES child. Within this organizational paradigm, the methods and techniques used are largely fashioned from existing ESL methodologies.

Based on linguistic considerations, the Fishman (122) typology of bilingual education consists of the following types, according to Thomas: (272)

Type I - Transitional Bilingualism: Non-English language is used in the early grades only to the extent necessary to permit children to adjust to schools and until their English is developed to the point it can be used as a medium of instruction.

Type II - Monoliterate Bilingualism: The goal is to develop both languages in aural oral skills but not attempt to develop literacy skills in the mother tongue.

Type III - Partial Bilingualism: This seeks fluency and literacy in both languages but literacy in the mother tongue is restricted to certain subject matter.

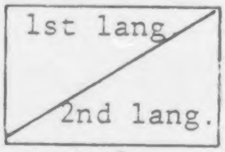
Type IV - Full Bilingualism: This is a design in which students are to develop all skills in both languages.

Reports on experiments in the American Southwest by Cohen (70, 71, 72, 74, 75) elucidated the last two types. In partial bilingualism, literacy in the mother tongue is restricted to subject matter such as social studies, music, art, and physical education. The model allowed for English instruction in mathematics and science. Language arts was team taught. In full bilingualism, both languages were used as media for instruction for all subjects. The use of alternate day bilingual education and preview/review or unit sons was emphasized.

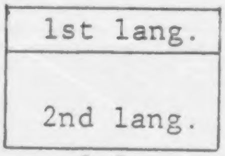
Parker (225) added immersion and submersion to the typology. In the immersion design, students of one language group were taught only through the medium of the second language and only after a specified period of time were they given specific limited instruction in language arts skills in their native language (48). Immersion in the second language may be total (299, 34, 74, 75), i.e., when there is exclusive use of it in grades K-2 with gradual introduction to language arts in the first language in grades 2 or 3 or later, i.e., when there are several years of traditional second language teaching followed by total immersion in the language at grades 7 or 8 (285, 74). In the submersion type of program, both native and non-native speakers of the dominant language are taught English together but there is little or no instruction for non-native speakers in their languages or for developing language arts skills in their native language. However, some instruction in English as a second language is sometimes provided for the LES/NES students (225).

Saville and Troike (249) offered three alternatives in program design as follows:

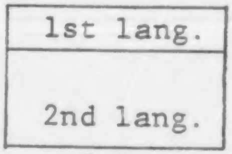
1. When balanced bilingual program design is used and there is no problem acquiring bilingual teachers and aides.



K-2

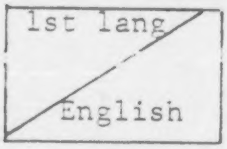


3-5

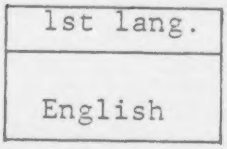


6-8

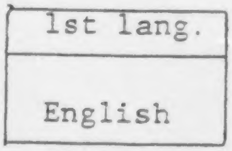
2. If the purpose of the program is only to make non-English speaking children bilingual, more time can be devoted to the instruction in English and the native language maintained in some subject areas. The program design would be as follows:



K-2

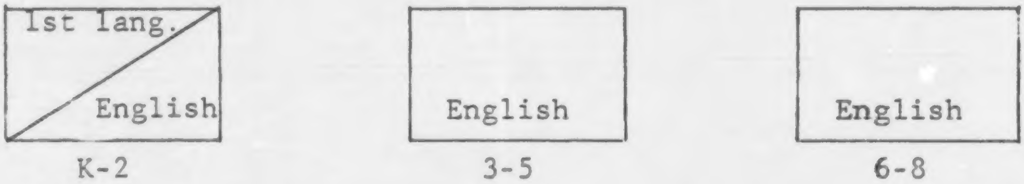


3-5



6-8

3. If the objective is to move toward rapid acculturation, using the students' primary language only as a means of assisting with the introduction of English.



The third type was classified by the authors as the least desirable but might be dictated by local conditions.

A recent compilation of titles and abstracts of doctoral dissertations on bilingual education, published by the National Dissemination and Assessment Center, ESEA Title VII in Los Angeles, California (215), listed six studies on bilingual program models observed from 1969 to 1977. Two of them dealt with the transitional type and one with the ESL/bilingual design. Two others merely described programs as bilingual/bicultural or "bilingual approach" model. One identified programs as bilingual and quasi-bilingual.

All the designs described in this section cover most of what is available in the current literature. They form the major constructs within this topic. New designs may well be in the process of further development to suit exceedingly varied ethnic characteristics and local needs. However, it is reasonable to expect that they will be based on the constellation of patterns just discussed, varying only in details.

Instructional Components

Language is inextricably bound together with most learning. The content of most education must be taught through the medium of language (225). Particularly in bilingual education, language development is often regarded as the essence or the core of the phenomenon itself. Success in the educational system and the development of positive attitudes toward the self image, identification with and appreciation of original heritage and culture, as well as economic security in the long term, are seen as resulting from effective language development. It is not surprising, therefore, that the bulk of the available literature on classroom practices in bilingual education is geared to language development and learning language skills, e.g., listening, speaking, reading, and writing.

The focus then, is on English language skills (with or without ESL) for the LES/NES students when they come to school. In the last ten years or so, bilingual education has expanded the focus to the acquisition of skills not only in English but also in the children's native language. Within recent years, the integration of the language arts skills into teaching and learning in content areas of the bilingual curriculum has also received attention, although this relational process appears to be still in the stage of experimentation. What follows is a coverage of such instructional models, approaches/strategies, processes, methods, and techniques as they have been debated, discussed, and used in bilingual education. The terms are used in this section to refer to instructional components or packages either as a whole or parts thereof as previously defined.

Models

Model is a package that spells out the approach, process, methods, and/or techniques and may include the materials to be used for its implementation in the classroom. Nine tested models of instruction for early childhood through grade 3 were described in literature and were especially recommended for use (235). Geared to meet the needs of bilingual, disadvantaged, and preschool or early elementary children, these models fall under four teaching situations outlined by the Demonstration and Research Center for Early Education/National Program on Early Childhood Education (DARCEE/NPECE), in St. Ann, Missouri:

a. Open Classroom

    1. The Tucson Early Education Model (TEEM)
    2. The Education Development Center Approach (EDC)
    3. The Early Childhood Education Learning System (SEDL)
    4. The Oral Language Program (SWCEL)

b. Structured Classroom

    5. The DARCEE/NPECE Program
    6. The Behavior Analysis Plan

c. Individualized Instruction

    7. The Responsive Model Program (RMP)
    8. The Primary Education Project

d. Non-Institutional Instruction

    9. The Florida Parent Education Model

A brief on each of these models was gleaned mainly form the Far West Laboratory for Educational Research and Development Resource Manual and Program Description* and an article (221) by some of its staff:

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* *An internal document, not a publication per se, and thus not included in the bibliography.*

1. Tucson Early Education Model (TEEM)

This model is a project of the Arizona Center for Early Childhood Education at the University of Arizona. It originated as a program for Mexican Americans in first through third grades and is now used in preschool through third grade Head Start and Follow Through classes with children of all ethnic and cultural backgrounds. The objectives of the program are development of language competence, intellectual or "learning to learn" skills, and motivation, social, and academic skills. The instructional approach is based on activities that combine learnings from different areas. In cooking, for example, children follow written directions, use new vocabulary, measure quantities, observe physical changes, and afterward write reports. Children work in small heterogeneous groups. Most activities are assigned but there is also a free choice period each day. The teacher's role is to design activities and arrange the classroom, provide models of language and behavior, and reinforce the children.

2. Education Development Center Approach (EDC)

A project of the Education Development Center in Newton, Massachusetts, this model is based on the practices of British infant schools. It is concerned with realizing the potential of the "whole" child, namely his social/affective development as well as academic/cognitive growth. Activities are initiated by the child according to his own interest, and he may explore them as deeply and for as long as he wishes. There are no arbitrary separations among traditional subject matter or adherence to set time schedules. The classroom is equipped with a variety of commercial and teacher or student made instructional materials that stimulate exploration and discovery. The EDC has sponsored the model for implementation in preschool through third grade classes in the United States. Increasingly, the model is being seen as a way to educate all children.*

3. Early Childhood Education Learning System (SEDL)

This model comes from the Southwest Educational Development Laboratory and it includes a three year sequential program for children ages 3-6, a two year sequential program for ages 4-5, and a one year program for kindergarten (5 year olds) who have no previous preschooling. The program has two components, one for low income urban and rural Black children, the other for low income urban and rural Mexican Americans. The bilingual component stresses verbal and reasoning skills and healthy self-concepts. The objective is to build up the child's first language and then systematically introduce some or similar concepts in English. Toward the end of the year, the instruction is predominantly in English. Basically, nine types of lessons are prescribed covering visual, auditory, motor, ideas and concepts, syntax of English, building vocabulary, prewriting, thinking and reasoning, and exploring and discovering. The model was first implemented in 1968 at the Good Samaritan Center in San Antonio, Texas, and the Texas Migrant Educational Development Center in McAllen, Texas.

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* *The model appears very similar to that developed in the Montessori schools.*

4. Oral Language Program (OLP/SWCEL)

   The OLP is a complete program for teaching English to 5-7 year old, non-English speaking children. Produced by the Southwestern Cooperative Education Laboratory (SWCEL), it is based on a set of instructional materials for ESL developed at the University of California in Los Angeles. The model consists of 147 lessons, enough for one school year. The lessons deal entirely with the oral and auditory aspects of English. The instruction is entirely in English and the content of lessons relate to local and ethnic backgrounds.

5. DARCEE/NPECE Model

   This program focuses on the development of skills and attitudes necessary for children to succeed in later grades. Skill objectives are broken down into three major categories: sensory or input skills, abstracting or mediating skills, and response or output skills. Within each major skill objective are subskills broken down into small learning steps. Unit themes such as Home and Family or All About Me provide the context in which skills are presented. Attitudes, such as positive self identity and independence, are considered necessary ingredients for later success. The teacher follows suggested activities.

6. Behavior Analysis Plan

   Developed at the University of Kansas, this model stresses the development of skills and behavior required to succeed in school. These include skills in reading, arithmetic, spelling, handwriting, and desirable classroom behavior, such as completing tasks, paying attention, and working independently. The program diagnoses each child's level of function (where he is), determines terminal objectives (where he should be), and proceeds to take him from where he is to where he should be. A distinctive feature of the program is its use of reinforcement or awards. Commercially available programmed materials in reading, arithmetic, spelling, and writing are used. The model is designed for preschool through third grade. Its target audience is children from poor homes, many of them belonging to non-White ethnic and cultural groups.

7. Responsive Model Program (RMP)

   A preschool through third grade program, this model is a product of the Far West Laboratory for Educational Research and

Development in San Francisco, California. The program emphasizes the development of intellectual abilities and a positive self image. It provides a learning environment that responds to the needs and interests of children. The classroom is equipped with a large variety of "responsive" toys and materials. Activities are undertaken for their own rewards. Children are free to explore activities, work at their own pace, and make discoveries under the guidance of the teaching staff. The RMP was originally designed for three to nine year old children from low income homes and different ethnic backgrounds. However, it can be used for all children from three to nine regardless of background or ability.

8. Primary Education Project (PEP)

This model come from the Learning Research and Development Center at the University of Pittsburgh in Pennsylvania. The program provides for a carefully sequenced curriculum designed to be adaptable to individual needs and abilities. The concentration is on basic skills and concepts. Three general classes of skills are stressed: 1. orienting and attending skills, 2. perceptual and motor skills, and 3. conceptual and linguistic skills. Sequenced, specific learning objectives are organized within curriculum areas and each lesson is accompanied by a behavioral objective.

9. Florida Parent Education Model

This model (for K-3) was developed by the Institute of Development of Human Resources, University of Florida at Gainsville. It is based on the premise that parental behavior and the quality and amount of verbal stimulation have a strong influence on the intellectual and personal development of the child. Thus, the major thrust is to educate parents to use skills that will improve their children's intellectual behavior, self esteem, and motivation. The program hires and trains community people to work as parent educators, who in turn make weekly home visits to teach parents skills to use at home with their children.

Each of these models prescribes goals and objectives, content and materials, classroom activities, parental involvement, professional and paraprofessional training, and administrative requirements and costs. Gratifying results have been recorded in the implementation of these models, which invariably began as models for bilingual children and have since been adapted for general use by Head Start and Follow Through programs throughout the country.

Since 1975, at least four bilingual, multicultural preschool models, previously for Spanish speaking children, have been developed under the sponsorship of the Administration for Children, Youth, and Families (ACYF) in Washington, D.C. These are: *¡Alerta!* (developed by the Teachers College, Columbia University, N.Y.C.); *Un Marco Abierto* (by High Scope Educational Research Foundation in Ypsilanti, Michigan); *Amanecer* (by the Intercultural Development Research Associates in San Antonio, Texas); and *Nuevas Fronteras de Aprendizaje* model (of the University of California in Santa Cruz). These models were ready for dissemination and use by fall 1979. Although these are strictly for preschool at the present time, there are indications that their use (as with the other models previously described) will be expanded to early elementary grades in the near future.*

Sustained efforts of the Southwest Regional Laboratory for Educational Research and Development (SWRL) in Los Alamitos, California, to develop "a wherewithal" for a Spanish youngster to begin succeeding in the regular classroom as rapidly as possible (256) resulted in an English Language and Concepts Program for Spanish speaking children which has come to be known as the SWRL-LCS model. This involved a series of tryouts starting in 1968-69 with an elementary school in Southern California and expanding to eight school districts (33 schools, 43 classes, and 883 Spanish speaking children) in 1971-72. The methods used included administration of screening tests, pre/post tests, classroom observations, teacher lesson evaluation forms and questionnaires, and end of the program assessment measures. By 1973-74, the various system components were integrated to ensure that the comprehensive program could be installed under regular school operating conditions in a range of settings, composed of some 135 lessons designed to improve proficiency in vocabulary, following directions, and syntax. It provides procedures and materials for teacher use, as well as tutorial materials and procedures to guide older students and aides. Exit criteria are provided.

Less structured models also exist. In CARTEL, an informative listing of materials for bilingual bicultural education of the Dissemination and Assessment Center for Bilingual Education in Washington, D.C., the following selected models were summarized:

1. Basic Bilingual Reading Series: This was developed by the Educational Sensory Programming in Jonesboro, Arkansas, primarily for the development of vocabulary and comprehension skills. Lessons are printed phrase by phrase in English and Spanish and recorded on tapes, with the narrator asking the child to perform the exercises on the worksheet. The child follows the tape as the lesson is repeated in English and Spanish alternately. There is heavy use of this alternate oral language approach to introduce the concepts contained in the materials. The series consists of 12 cassettes, 24 lessons, 24 spirit worksheets for each of the three levels. A Basic Bilingual Mathematics Series using the same approach is also available. These models were stated to be effective in other SSL or ESL classes in bilingual education.

2. Conversational English for the NES Child: This is a model published by Teachers College, Columbia University, and is actually

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*From notes of the Conference on Bilingual Preschool Education, Development Associates, San Francisco, 1978.

a manual and reference book of the School Volunteer Conversational English Program of New York City. It features an audio-visual-lingual approach to ESL. Its basic concepts approach make it applicable to all grades.

3. Guided Reading for Bilingual Instruction: This is a multi-media model designed by Instructional/Communications Technology, Huntington, New York. It features parallel Spanish and English programs designed to build fluency in reading. Bimodal experiences are provided in Spanish to assist English dominant students in listening and reading in Spanish and to help Spanish dominant children by conceptually preparing them for stories in English. This program has been adopted as a supplemental reading model in California and Florida.

4. Language and Thinking Program: Developed by Instructional Systems Program in Chicago, Illinois, this uses an oral language based method of instruction which accepts the language of the child and provides alternative approaches. It starts with naming common objects and introducing the language of instruction, and proceeds to develop language and cognitive skills. It is designed for early elementary grades in bilingual programs.

5. Early Childhood Curriculum - A Piaget Program: This is a model developed by Celia S. Lavatelli and published by the American Science and Engineering Education Division in Boston, Massachusetts. It is designed to foster development of logical thinking processes and associated languages, and is based on the research of Jean Piaget. The model provides short but numerous structured activities. The dual approach to language teaching is used. It is rationalized that the use of two languages will allow the child to develop proficiency in both languages while thinking in both. The teachers' guide describes in detail the goals for each set of activities. The model is apparently popular and used in New England and other eastern states.

6. Bilingual Math Program: This model was developed by Culturally Democratic Learning Environments, Follow Through Projects, University of California in Riverside. Designed for grades K-3 in bilingual programs, it utilizes small group and individualized instruction. Math activities and test items covering performance objectives for K-3 are provided. The publisher has similar programs for bilingual science and reading in English and Spanish.

7. Developing Mathematical Processes (DMP): This is a model produced by the Wisconsin Research and Development Center for Cognitive Learning and published by Rand McNally in Chicago, Illinois. It is intended for early elementary grades and provides manipulative materials and activities. The model mainly utilizes individualized and small group instruction.

Two models in Spanish were included in the same listing:

1. *Canciones Dramatizadas:* This model comes from the Institute of Modern Languages in Maryland and uses a musical approach to the sound systems in Spanish. It aims to develop the child's motor skills, his concept of sequence, his audio-visual recognition of the letters, and his memory skills.

2. Crane Reading System in Spanish: Published by the Motivational Learning Programs in New Jersey, it uses the eclectic and phonetic approaches and is designed for Spanish dominant American pupils. The system consists of reading activities, skills development, and story telling activities. It provides guidance in the use of the phonetic approach through itemized charts and lists of alternate sequencing for interrelated activities using picture and letter cards, skill and practice books, and readers.

To the above Spanish models, Rivera (243) added *Me Gusta Leer Series* by Allun & Bacon for the development of reading skills in Spanish; the *Laidlaw Spanish Basal Readers*, which provide a cartilla *(Aprendemos a Leer)* and proceeds through to grade level 6; and the *Páginas de Ayer y Hoy*, for teaching reading to Spanish speakers. The *Serie Básica* of Laidlaw Brothers is also popular material and is being used in Puerto Rico. The *Fondo Educacional Inter-Americano Math Series* is a model for teaching methematics in Spanish. For science, translations of the Scheider Science Books of C.D. Heath and Company are said to be the most useful.

Among the many labeled as models, some appeared that seemed more circumscribed in their development. Condon (79) described a non-graded, continuous-progress, education model, which was said to show promising success for bilingual children. Continuous progress education is a practice in which there are no limits to learning. Each child moves at his own pace in non-graded arrangements. Various curricula are defined in stages or levels of learning, specifically created, sequenced, and described for learners. The aim is to develop a prescriptive approach to education, based on a careful diagnostic workshop for teachers, derived from the various diagnostic tools that were created to assess the pupil's needs, strengths, and weaknesses. Condon's model provides for a flexible learning sequence and requires academic placement of the LES/NES students at the nearest level according to maturity, English language proficiency, and academic background (if applicable). There is a temporary elimination of certain subject matter requiring particular knowledge of the language of instruction. Daily language instruction of one to two hours during regular language reading, science, or social studies periods is provided. All standard tests are eliminated unless especially prepared by trained teachers. Simultaneous bilingual instruction is given when enough students possess a similar language background. The model also provides for reinforcement of language instruction through individualization via ability grouping, tutoring by volunteer native speakers, use of electronic devices, language laboratory, tape recorders, and language masters. The starting level is grades 1-3. As developed in

Chicago, the continuous progress model was described by Reyes (241) as a "two way, integrated, maintenance type, total bicultural-bilingual program with great promise for students from early childhood to the high school."

Other models cited in the literature included the *Miami Linguistic Reader* (6), a package of recommended activities, and is being used apparently quite successfully in teaching English and reading to Spanish monolinguals. Henderson's (152) *Step by Step Guide that Guarantees Reading Success* prescribes a learning package for bilingual children in the first grade. The model covers remedial reading, oral reading, sight learning, transition between memorization and word recognition and independent recognition.

Approaches and Strategies

Some approaches or strategies in classroom instruction have already been indicated in the previous discussion of models. A field study in California indicated that the subject matter taught daily and the strategies for instruction in bilingual programs in the state were dictated, for the most part, by the curriculum materials (either commercially or district developed) used to teach the subject matter. Thus, the instructional activities outlined by a social studies series, English language arts series, Spanish language series, ESL series, multicultural series, or mathematics series determined the pupils' day-to-day instructional program (40).

Proceeding from the general to the specific, current literature presents two major approaches. These are the ESL approach and the bilingual education approach. The cited authors' assumptions in using this broad nomenclature for approach appeared to be that each has its own processes, methods, techniques, and activities to achieve the stated goals.

As an approach, ESL was an early way of meeting the needs of LES/NES students, expecially adults, and it has recently been revitalized for youth. It is a specific kind of instruction in structural patterns in English characterized by oral drills with practice, sequencing of the introduction of new structural elements, and suggestions for their use in class (77, 80, 4, 6, 7, 40, 111, 119, 120). ESL designs, seen as an approach, provide particular teaching methodologies, techniques, activities, and materials in sufficient detail to qualify as models. Generally, however, they specify the skills and then refer to adopted texts and other commercial materials already available, and thus constitute an approach or strategy.

In addition to "regular" ESL, an intensive ESL approach may also be employed. This is used for students who already have some school experience. Intensive ESL may take place during summer to prepare them for full subject matter instruction in English when the academic year begins. In the instructional process, the students are spoken to in English in order to immerse them totally in the language. The native language is used occasionally to help the students adjust to school and to explain grammatical concepts. (174)

Prior to 1979, the effectiveness of the ESL approach was called into question by proponents of bilingual education even though both ESL-only and bilingual education have a similar stated goal of teaching the students English. The advocates of the bilingual approach argue that LES/NES students in ESL programs miss a considerable amount of subject content which is a major reason for their generally poor academic performance. The ESL focus on grammatical structures and pronunciation drills, while important, are said to limit the scope of cognitive growth. Additionally, the appreciation of the child's native language and culture is neglected (3, 12, 50). Some argue that LES/NES students can learn English and English language skills only through instruction in English. Others argue, however, that there are other needs of LES/NES students which are as important as learning English and that those needs can be met more rationally by the bilingual approach, which stresses instruction in two languages and recognition of cultural heritage, keys to positive self image, and academic success.

Bilingual education, when listed as an approach, has seldom been developed beyond the mere use of two languages with variations in their instructional time allotments and this is, in fact, the bilingual approach as evidenced in many writings. This general view of bilingual education was used in many of the studies undertaken to assess the effectiveness of bilingual education (72, 126, 133, 173, 176, 207, 252, 278, 281, 307, 108).

Although the controversy about the two approaches has by no means abated entirely, since 1975, ESL has become more and more popular as a standard component of bilingual programs as can be seen by the large number of articles on it this decade. The general satisfaction with the ESL/bilingual approach is described by Thompson (275) in certain school systems in Iowa, Georgia, Virginia, Colorado, and Florida, where they "use native language instruction so kids don't fall behind" and "use ESL as a way to teach them English through shortcuts." The result of this tendency to accept ESL as a necessary component of bilingual education has had the effect of combining methodologies and techniques in an integrated fashion such as in the San Diego, California, language continua (247). Saville-Troike (248) also combined classroom practices in ESL and bilingual education.

A byproduct of the controversy is the efforts of theorists and practitioners to refine and improve the approaches. Thus, in language learning, the structural situational approach (232, 237, 64) calls for breaking down the structure of the language into the features of arrangement and choices of which it consists, and teaching these as separate items, one by one and bit by bit. Facts about them are not taught and little or no time is spent in explaining grammar, although the practice exercises are gramatically correct. The proponents say that when the features are taught in this way, and if carefully selected, they build an interlocking system of usable, meaningful language. Language must be taught situationally, using events that actually occur or are talked about in classrooms (232, 249, 168). Feeley (115, 116) confirms the effectiveness of this approach in a "workshop tried and true" involving an experimental group of first grade randomly selected bilingual children.

Garcia (132) and Levenson (186) in advocating the language experience approach on the basis of his observations, added that students should first be provided with experiences in each of the five senses: sight, sound, touch, smell, and taste. They then pursue, in turn, discrimination skills through imitative reading and writing, and divergencies through creative writing and reading. In the second step, decoding skills are taught by providing reading experiences. The third step is devoted to reading and creative writing (186). Kaminsky (168) added that the use of children's experiences allows them to provide their own semantic and symbolic components and helps bring them into the reading process through their first language.

The language experience approach is said to have a number of advantages for the bilingual child in that it develops better self concept and enables the child to see the interrelationships among the language arts. Also, it provides meaningful and stimulating content. However, as Ching (65) pointed out in the same sentence with praise, the approach also has limitations when used with the bilingual child. First, vocabulary control is difficult. Because the sentences are the child's own contributions, it is nearly impossible for the teacher to control the vocabulary load of the stories if the approach is used alone, There may not be enough repetition of words to have the child build his repertoire of sight words. Secondly, the content is limited. The child's reading experiences are limited to the experiential and informational backgrounds of himself and of his peers unless the teacher encourages and makes available the use of other sources of reading material, which then violates the approach. Thirdly, reinforcement of unacceptable forms of speech often results. Because the stories told and then read by the bilingual child are in his own words and structural patterns, grossly unacceptable forms of speech may be reinforced. This poses a challenge to the teacher's ability to encourage the child to express himself freely and yet to teach him to make use of standard forms as alternatives.

Cheyney (64) exhorted that any language approach should follow a set of exercises and games in developing meaningful patterns of speech covering receptive skills, reading, and expreseive skills. In oral language teaching, and usually to introduce concepts, he also suggested an alternate language approach. Lessons can be printed phrase by phrase in English, with native language on tapes, and the child follows the tape on his worksheet. Valdes Fallis' (295) four semester sequence in language teaching suggests the normative approach, which stresses continuous use of the standard language in the development of spelling skills, grammatical understanding, reading, and composition skills.

Ching (65), in her own research, made mention of the following approaches to reading:

1. Native Literacy Approach: This is based on the assumption that the most efficient method for teaching the national language of a country to non-speakers of that language is to teach literacy first in the native language. The approach is logically appealing because: a. by teaching reading in the native language, reading instruction in the standard language can begin at an early age; b. the child's cultural heritage is therein recognized; and c. learning to read in the native language makes the child more comfortable. However, native literacy programs are expensive and present problems for mobile students.

2. Dialect Approach: This is one in which the child first learns to read in the non-standard dialect with which he enters school. Its primary advantage is that the child will receive "powerful ego support" through the credence given to his language. The diadvantages, however, are that it is difficult to prepare special materials for each dialect group in the United States and that the speech community may reject the use of materials which are based on a non-prestigious dialect. In addition, standardized orthographies for the dialects do not exist, causing even greater difficulty and expense. The reinforcement of unacceptable patterns is also evident.

3. Common Core Approach: In this approach, materials which minimize dialect and cultural differences are developed in standard English. An effective means is to base the content of reading materials upon a school subject such as science or civics as was done in a project in San Antonio, Texas (167).

Modiano's field study (207) in the Chiapas highland of Mexico stressed the "bilingual approach" to reading. The child began reading in the second language only after learning to read in his native language and after acquiring some oral vocabulary in the second language. The vernacular or first language of the child was used as a vehicle for teaching reading in the national or second language (Spanish). Andersson (10), as also Al and Kay Past (226), similarly observed advantages of this bilingual approach.

Gunther (148), in her comparative study on bilingual oral language and reading skills among limited English speaking students from Spanish backgrounds in Chicago, based her instructional groupings on the following bilingual reading approaches:

- the native language approach with initial reading instruction in Spanish

- the concurrent approach with reading instruction in Spanish and English

- the direct method with reading instruction exclusively in English.

The study found that in oral English proficiency, the 6 and 8 year olds receiving reading instruction exclusively in English (direct method) performed significantly better than students receiving bilingual instruction (concurrent approach); the groups of 10 year olds, however, performed on a comparable basis regardless of the instructional approach. In English reading, the 6 year olds under the direct method also performed significantly better than the students receiving bilingual instruction; the groups of 8 and 10 year olds performed on a comparable basis regardless of instructional approach. In Spanish reading, the 6, 8 and 10 year olds receiving instruction in Spanish and English performed significantly better than the students receiving instruction exclusively in English. Gunther warned, however, that with reference to English skills, the findings should be interpreted with caution since the cumulative effects of bilingual isntruction do not always surface in cross sectional designs. She noted that some gains were evident for the bilingual program participants. In the acquisition of oral language and reading skills, the study found that among young children, fluency in the first language was a good predictor of oral skills in the second language. For all age groups, first language oral skills were consistent predictors of first language reading skills. For younger children, ESL instruction, teacher training and teacher attitudes were positively associated with the acquisition of skills. No definitive trends were observed with respect to other variables such as sex, ethnic background, or socio-economic status.

Engle's review of literature (113) on the native or first language approach to reading, in contrast to the "direct method" (which immediately introduces the second language orally and begins reading instruction in the second language), is worth citing. The review covered 24 studies, of which seven (including Modiano's study) were found to be "truly experimental." Engle concluded that all the studies varied in every conceivable way and most provided no substantial evidence as to which approach was better. From her review, however, she made the following generalizations, which should be instructive:

1. Teaching second language literacy without oral language training is not likely to succeed.

2. Bilingual programs do not apparently retard children's language development in their native language.

3. The effectiveness of a program may increase with the number of years.

4. Initial disadvantages and slower rates of progress appear to exist for all bilingual children no matter which approach is used.

5. The training of a teacher has some effect in various situations.

6. A program may be effective if it involves oral language taught in early years.

7. The success of a bilingual program is related to a complex web of factors that differs in each situation - how much language is used in the home, relationship between the languages in the larger society, values put on each language.

Other writings included the immersion approach with does not resort to the native language of the learner for explanations or for comparison purposes. Grammar is not taught directly and the language is learned through exposure and usage. The children are treated as if they were native speakers of the second language in contrast to the traditional manner in which the child is gradually introduced to the new language. Although variations may exist in the introduction of subject matter in the native language, the basic characteristic is that all learners start off linguistically "in the same boat." In later grades, other children with more advanced abilities in the second language can be brought into the regular class with positive effects. (47, 48, 70, 71, 74, 286, 286)

The effectiveness of the immersion approach, particularly in the case of English speaking, majority language children who are learning a second language, was reported by Lambert & Tucker in their St. Lambert Experiment in Quebec, Canada (176). Based on the Canadian experiment, the approach has also been reported to be successful in the following five city schools and one college experimental school in the United States: Culver City, California (1971)--Spanish; Silver Springs, Maryland (1974)--French, Spanish; Milwaukee, Wisconsin (1977)--German, French; San Diego, California (1977)--Spanish; Campus School, State University of New York, Plattsburgh (1976)--French. Despite these successes, Gradisnik (141, pp. 104-127) warned that the immersion approach and its procedures may not work for, say, the Spanish speaking minority lanquate pupils learning English.

According to Gradisnik, Lambert, who was the evaluator for the St. Lambert Project and widely recognized for his research on minority children, explained that there are two types of bilingualism: "subtractive" and "additive." If the minority child's native language is replaced to some degree by the majority language, it has a subtractive effect on the child. In some cases, such children may develop low levels of achievement in both languages. In "additive bilingualism, " where the child's first language is the dominant or majority language in the culture, the use and acquisition of a second language is an added achievement for the child and cognitive learning becomes more evident.

Battiste, Bond & Fagan (21) identified three types of "bilingual approaches" in their study of bilingual projects involving Native American, Indo-European, Asian, and Pacific language groups. These were described as:

1. For primary monolingual speakers: From the kindergarten level, the medium of instruction was in the native language. All new concepts were introduced in the native language. Some oral English was provided in ESL. As students developed more English language comprehension, they were introduced to reading and writing in English, transferring the skills learned in their native language in the process. English usage also increased in other subject areas. Team teaching or half day instruction in English and half day instruction in the native language was utilized.

2. Bilingual instruction for limited English speaking ability students: Here, the units of instruction were provided in both English and the primary language. Local culture was incorporated in the curriculum, especially in language arts and social studies. The medium of instruction varied with subject matter and with the language ability of students and teachers. The English dominant teacher taught language arts, social studies, science, and mathematics in English, while the native teacher taught language arts and social studies in the native language, in addition to providing individual or small group discussion as needed. In some schools lacking native language teachers for each classroom, a team of native speakers either rotated among classrooms or took students by grades out of the regular classroom for bilingual instruction. A major disadvantage of this "approach," as observed, was that it did not allow for reinforcement and continuity of subjects taught by either the regular classroom teacher or the native language teacher.

3. Bilingual instruction for English speaking children: Instruction under this "approach" sought to retrain, sometimes restore, the native language, to provide children with successful experiences in the native language and culture, to develop better self concept, and to encourage the use of standard English. Oral language development was stressed. Basic vocabulary concepts were introduced using culturally relevant materials. When students had developed some facility in the various sounds in the native language, they were introduced to the written form of the language (when the language was written) and to structural patterns of the language. It was observed that because the medium of instruction for the most part was English, there was often difficulty in making adequate translations from the native language into English. In one community, parents felt that children should learn usable phrases and sentences instead of just vocabulary words.

No statistical evidence for these was presented in the publication.

Fairly recent in literature concerning approaches in bilingual education is the exhortation of Dulay & Burt (103, 105, 107, 109, 41, pp. 8-38) that instructional approaches should be geared to the following groups of limited English proficiency students: non-English superior (primary language dominant), English superior

(English dominant), and equally limited students. Each group has different linguistic characteristics and correspondingly different instructional needs. For the non-English superior students, it is suggested that opportunity should be given to them to learn the basic academic subjects in their home language in addition to special English (second language) instruction. Such an approach would remove the handicap under which the students would be working if they were to receive instruction through English. For the English superior students, they would suffer less of an academic handicap if the academic curriculum were taught in English rather than in their home language. However, their underachievement in English would necessitate special instruction (different from the regular English arts curriculum) to promote English language development. Part of the program might also be a class designed to develop their home language skills, the ultimate goal of which should be home language acquisition rather than content learning. For the equally limited students, the language that the child speaks at home should be used. Again, statistical evidence for the approaches was not presented.

The foregoing discussion demonstrates the liberal and often euphemistic use of the term "approaches" in current literature. Some of the "approaches" have been deliberately included in this section of the review, in part to show the confusion in terms used. However, this need not deflect from the more defined use of the term to denote a fairly complex set of instructions about what and how to teach at a particular grade or a particular subject matter.

In the center of this more structured and more appropriate (if arbitrary) definition of approach or strategy are easily the *Rock 'n Roll* (270) program for oral/aural language development, the *Language Continuum* approach of the San Diego City Schools (247), and the ESL/Bilingual Education Elementary Institute (111) package recently developed (June 1979) at Texas A & I University, Kingsville, for the Texas Education Agency.

1. *Rock 'n Roll* (270): The development of this program was based on work entitled "Starting Education Early H-200," done at UCLA under a federal grant. When this became public domain, it was enriched as a curriculum kit in Texas and further developed to include Rock, the ESL component, and Roll, the Spanish component. Roll, which has both English and Spanish versions, is basically for bilingual instruction. Concept development, vocabulary expansion, and speech pattern expansion are the broad objectives of the entire program. Lessons include sections on materials needed, teaching points, language patterns, likely vocabulary errors, free dialogue, and tests. Manipulatives include more than 50 types of objects. Extra activity directions for language card drills, arts, craft, mathematics, dramatics, and music activities are provided. The program is accompanied by RISE (Releasing Ideas for Self Expression) both in Spanish and English to cover the affective domain. The circulation of this approach is through the Melton Book Company in Dallas, Texas.

2. *San Diego Language Continuum* Approach (247): Designed in 1977 by the San Diego City Unified School District, primarily for Spanish speaking students, but later expanded to Tagalog and Vietnamese, it presents objectives, activities, and resource materials for the development of language skills. These are sequenced and arranged in a continuum covering motor skills, auditory and visual discrimination, oral language, phonetic analysis, specific comprehension, inferential comprehension, vocabulary, orthography, grammar, and investigation skills. The continuum prescribes supplementary resources materials such as the *Santillana Reading Series*, (Spanish Curricular Development Center material, Miami Beach, Florida), *CRANE-Libros del Trabajo* of the Motivational Learning Program, the Spanish Roll of Melton Book Company, and the Southwest Educational Development Laboratory *Learning System and Project Frontier*, a regionally developed material. The development of positive self concept and self image is part of the curriculum.

3. The ESL/Bilingual Education Elementary Institute: Designed first for teacher training, this approach material is a well organized compendium of reference and instructions covering theory, what to teach, techniques, handouts, task sheets, and varied activities for the achievement of objectives. Lessons are highly structured and teacher activities are described in detail.

The state-adopted system for ESL/Bilingual Instruction in Texas (111) includes 12 oral language development systems for kindergarten, grades 1 and 2, the LEIR *Language Experiences in Reading*, (Encyclopedia Britannica, Educational Curriculum) for grade 3, and nine pages of single space typed commercial references and materials for higher elementary grades. For kindergarten, as an example, the approaches are contained in the following:

For ESL Instruction

Getting a Head Start	Houghton Mifflin
Beginning Readiness Kit; Beginning to Read, Write and Listen Kits, I & II	J.B. Lippincot
SWRL Kindergarten Program, Texas Configurations	Ginn & Co.
Early Explorations	Deneyer-Geppert
MacMillan Series, Bank Street, Threshold K.S.	MacMillan Publishing Co.
Bold Beginning, No. 4500	Ideal Book Supply

Playway	Holt, Rinehart, Winston
Self	Silver Burdette
Learning to Learn through Looking	McGraw Hill/Early Learning
Alphatime	New Dimensions in Education

For Bilingual (Spanish English)

Mis Primeras Lecturas and Introducing English	Houghton Mifflin
Scholastic Early Childhood Filmstrip Library, an A-V Approach to Oral Language Development	Scholastic Magazine
Project Bilingual	Sutherland Learning Association
03AD Bilingual Kindergarten	National Education Laboratory Publishers

For Grades 1 and 2, the approaches are contained in four recommended textual series. A long list of texts and other materials is detailed for the rest of the elementary grades but the instructions for their use are mostly summarized indications. It must be pointed out that not all the materials follow one single strategy, for example, both sight memorization and word attack skills methods are included but without so specifying. Some evidence for effectiveness in bilingual instruction was given on two of the upper elementary sets.

1. *Learning English as a Second Language* by Muriel Pagan (1974), Bilingual Spanish/English (Oceana Publications): This package is in three levels, 1-3. Its main features are: fosters the language usage emphasis; conversational approach (audio-lingual); beginning reading and writing skills; additional activities and drills (replacement, substitution, and conversation).

2. *I Want to Know/Quiero Saber* (Bilingual Educational Services, Pasadena, California): This is a learning package consisting of six cassettes (three Spanish/three English), five 50-page workbooks, 65 visual response cards, and 30 soft cover books. The arrangement of these materials and the instructions for their use, together with the relatively restricted coverage, cause them to be included as approaches rather than models.

Other approaches are available in the literature but there was either no evidence for effectiveness presented, or else the evidence showed substantial problems with the conceptualization, implementation, or effectiveness. Among those that are better known were the bicognitive approach (55, 238, 239), the compatibility strategies (49, 50), and the Piagetian plan (181, 88, 170), listed variously as approaches, strategies, and processes. Generally these qualify more as the latter and they are briefly described in the process section.

In summary, the development of approaches to teaching English as a second language appears well advanced. Often building upon the Defense Language School (Monterey, California) materials and instructional practices, these fall into three categories:

1. A highly structured approach to teaching linguistic segments, grouped into lessons incorporating various amounts of material;
2. Moderately structured sequences apparently building on rather traditional textbook presentations; and
3. Various child centered/child as participant strategies.

While a few fit none of these three, the vast majority described herein and others listed in the references can be classified in them. Caution is urged when reviewing materials called "approach" since more than half of those so labeled deal with combinations of methods, techniques, activities, and materials which do not conform to one approach. They are simply a way of combining elements into a curriculum, without utilizing an integrated approach.

Processes

Using the Gage (128) and Taba (263) descriptions as the basis for separating teaching practices, process was defined as a set of teacher behaviors in instruction and classroom management. Although the term was often mentioned in the literature, little specification accompanied the inclusion of process as a component in the programs. Only those that defined what teachers were to do were included in this review.

Garcia (132) declared language usage as a process, stating that teachers should recognize that from birth, the LES/NES student associates certain ways of doing, feeling, and valuing through his native language and culture. Self expectations, self esteem, esteem for others, and student enculturation are developed through the native language and cultural values. He urged teachers to use the native language in all emotive processes so that these affective qualities could be enhanced.

Parker (225) emphasized the language process in noting that the cultural background, and the cognitive and learning styles of LES/NES students are vital considerations for planning classroom instruction and management, as well as for developing appropriate teacher behaviors. Cognitive refers to an individual's mental processes in manipulating concepts or the ability to think, and concepts are developed in sequence as a child matures. Language ability and cognitive ability are not necessarily synonymous.

Some researchers postulated that cognitive development may proceed on its own, separately from linguistic development, and that language is not causally responsible for basic cognitive development although the language of the child, his expression of ideas, becomes clearer only as ideas become more logical. Thus, although the exact relationship between language and thought is not known, there is nevertheless an intricate relationship between the two (181). Paulston, as cited in Cummins (83), pointed out that there has been really little exploration of the relationships between language and thought. However, the language-thought process was stated to have important implications for teaching strategies in bilingual classes. It was stressed that teachers at least should be aware of the cognitive styles and cultural values of the LES/NES students they serve in teaching the new language so that the former can develop proper behavior and create the appropriate classroom environment for meaningful instruction. Cummins used some examples as language-thought processes, but added little definition to substantiate how effectiveness in learning is increased, or exactly what cognitive styles exist within the process.

A number of studies on Mexican Americans relate to considerations of language-thought processes and specific characteristics on which to base instruction and language learning (14, 23, 204, 52, 53, 54). Merino's language acquisition study (204), dealing with aspects of syntactic development in English and Spanish by Chicano children (K-4), quoted significant differences among grades in various syntactic categories. Other studies can be found in doctoral dissertations summarized in a compilation by the National Dissemination and Assessment Center in Los Angeles (215). Casteneda & Robbins (55), Ramirez, Herold & Castaneda (239), and Ramirez & Castaneda (238) were more explicit in the detailing of a process to accommodate to the Spanish/English "bicognitive styles." In asserting that certian needs and characteristics are unique to Mexican Americans, Ramirez & Castaneda focused on four value clusters associated with traditional Mexican American culture: identification with family, community, and ethnic group; personalization of interpersonal relationships; status and role definition in family and community; and Mexican Catholic ideology. They stated that because of these values, Mexican American children generally manifest particular sets of behavior distinct from Anglo children, and that pedagogy must adjust to these unique characteristics. From this construct, Ramirez & Castaneda presented suggestions that include more one-to-one teacher/pupil instruction, more recognition of cultural background, avoidance of ridiculing the child's ethnic culture, and small and large group instruction as the basic delivery mode. In context, they cited a relationship among field sensitivity, styles, and cultural values, and that children from different cultural groups seem to manifest different patterns of intellectual abilities and learning styles. Group differences were said to exist in verbal ability and in certain Piagetian tasks.

Most of the suggestions in the study could be classified as to how to teach affective content in the language in which the child acquired his feelings about that subject. Others included items of common usage by the child - numbers, home, community - those in which Spanish has already been established as the "thinking" medium. De Avila (86) rejected this premise, stating that his studies failed to find bocognitive styles and that the espoused process had not been shown to affect learning. Gumperz (146) and Gumperz & Hernandez (147) also rejected bicognitive thought processes. Cohen & Rodriguez (69) similarly found that pedagogical questions associated with previously observed needs and characteristics unique to Mexican Americans do not appear to be any more relevant to this ethnic group than to any other. The results of their own studies indicated that direct reading instruction to precise behavioral objectives is more potent than the attempt to cater to Mexican American's "cultural learning styles." In related studies, Cervantes (57) and Cervantes, Theimer & Jones (59) also found that Mexican American students are similar to other students in psychosocial aspects, and poor performance on the part of the former cannot be explained by the theory of incompatibilities which asserts, among other things, that failure of instruction to speak to the cultural and learning characteristics of the student population being served is responsible for poor performance. The same authors (58), in their exploratory study of the affective-personality dimension, namely, locus of control, and its relationship to achievement performance and intelligence among Mexican American students, suggested that if the academic personality disposition of students could be identified, and the instructional content keyed to those dispositions, both the teaching and learning processes might be facilitated. The term locus of control refers to those causes, both internal (one's own actions) and external (others' action), to which sucess or failure is attributed.

In a discussion on the Ramirez & Castaneda study, Carter (54, p. 118) stated that whether the authors have logically and empirically demonstrated the relationship among field sensitivity, styles, and cultural values is probably not as relevant to the layman as to the educator. Many of the educators Carter interviewed on the matter felt, whether they understood the concept or not, that field sensitivity is common among Mexican American children and that it stems directly from the cultural values of the the ethnic group. Although further questioning is needed to uncover indepth understanding of the concept or its instructional implications, the acceptance of Ramirez & Castaneda's ideas seems to be growing and with this "inevitably come oversimplification, overgeneralization, and misunderstanding." Carter added:

> But educators are beginning to understand that learning preferences differ among groups of children and that one cognitive style is of equal value to another. Concern is often expressed that school content, method, and sequence should be adjusted to fit learning styles. Although little is being accomplished in a concrete way, teachers seem to be increasingly aware that the formal curriculum and the social and psychological classroom environment should not violate the cultural background of students. (54, pp. 118-119)

Most Latino cultures, according to Deyoe & Solis (95) place more value on being well thought of by one's peers than on showing off one's talents. Therefore, if the Latino child is to acquire the self reliance and outspokenness valued by the majority society, without denying his or her own cultural values, the experience will be most successful if it is structured so that all the students contribute and receive positive reinforcement. No individual student is to receive either praise or particular blame.

Along more general but limited lines, De Avila & Duncan (87, 41, pp. 42-69) and De Avila & Havassy (88), drawing from previous studies on the definition and measurement of bilingual students, presented a theoretical framework emphasizing an integration of cognitive-developmental and learning theory processes capable of generating specific performance predictions across developmental-intellectual, personality (i.e., cognitive style), and linguistic domains. Their recent research and preliminary findings in this regard involving several hundred children from different Spanish speaking backgrounds revealed superior intellectual functioning for the bilingual group across multiple measures when bilingualism was measured and defined by proficiency across phonemic, lexical, syntactic, and pragmatic dimensions.

Tentative findings by Kessler and Quinn (170, 253), in their continuing studies on cognitive development among bilingual children in San Antonio, Texas, also indicated that bilingual students had intellectual skills in solving problems in mathematics, science, and abstract reasoning that were equal to, or better than, those observed in a control group of monolingual children. The authors drew from Piagetian theory and observed that a bilingual child has more experience in solving internal conflict and that the process of learning two languages may trigger the development of problem solving skills. As children develop their problem solving skills, their level of language development also increases.

Dulay & Burt (103, 109, 110, 41, pp. 19-20) in pursuing their insights into second language acquisition, first language maintenance and loss, and the use of two languages in bilingual speech among language learners, adverted to a "creative construction process." This refers to the process by which learners gradually reconstruct rules for speech they hear, guided by innate mechanisms that cause them to formulate certain types of hypotheses about the language system being acquired. The process starts with the learner's external linguistic environment, which encompasses all language to which the learner is exposed. Incoming language data pass through a "socio-affective filter" which refers to the motives, needs, attitudes, or emotional states of the learner. The filtering of language input is followed by a cognitive organizer, involving personality and first language factors. These are monitored to determine the rate and quality of language output or learner's speech. The authors found it reasonable to assume that the filtering process briefly described takes place in bilingual education and should be taken into account for its educational implications in language instruction. In this regard, studies on cognitive learning patterns, social interaction styles, and second language acquisition processes are still continuing (102). In his recent writings, Cummins pointed out that theoretical positions in language learning processes testing for proficiency should distinguish between cognitive/academic language proficiency and basic interpersonal communicative skills in the first and second languages (84).

The *Early Childhood Curriculum - A Piaget Program* model (181) previously described, typifies the classroom management process provided to suit cognitive and learning styles. The non-graded, continuous progress education model, according to which each child moves at his own pace while the teacher observes how the child is interpreting the curriculum, can also provide meaningful processes for classroom management. Small group or individualized instruction are possible processes for custom tailoring instruction so it fits a particular learner (111).

Processes developed for general education have been adopted or adapted to bilingual education. The highly structured Mager (200) instructional objective process is in use to some degree in almost all projects, according to their proposals. The Maclure (195) processes for involving the student in the decision making about curriculum components are also widely incorporated into the plans.

In summary, processes, as a generality, are weakly defined. Available documents tend to use the word "process" a great deal but it is a mistake to associate it with cognitive development, language learning, "bilingual education process," and the "record keeping process," or to confuse it with method as in "team teaching process." Among those few that explicitly outlined process, described herein, little evidence was provided for effectiveness or the evidence showed no significant differences.

Methods

Method in education is defined as a systematic way of presenting material for instruction (128, 263, 172, 261). A method is usually seen as incorporating a set of techniques in carrying out certain activities intended to achieve the learning of content. For example, there are two basic methods for teaching reading in either the first or second language: word attack skills and sight memorization. The word attack skills method involves teaching letter sounds, then dipthongs and consonant blends, proceeding to phonemes (roughly, syllables), and to "sounding out" words in context. Sight memorization depends primarily on learning whole words through flash cards, "name" tags, finding the word in several contexts, and culminating in recognizing the word wherever it is found.

Most of the discussion in the literature about methods deals with teaching English. There is a great deal of concrete description and specification about teaching English as a second language and most of this review deals with that topic. In some cases, "language arts methods" were described as if they applied equally to both first and second language learning. A few specific methods for teaching Spanish were encountered. Still fewer were found for other languages. The methods for English, Spanish, and "others" are treated separately in this section. When the references referred to two or more languages, they are specified. Obviously several of those described teach some of both languages; that is made clear in the narrative.

English Methods

A 1966 survey of teaching English to non-English speakers in the United States, sponsored by the National Council of Teachers of English (6), showed that the most commonly used methods of instruction, in their order, based on institutional and teacher responses, were the following:

1. Oral-aural (audio-lingual)
2. Direct method (monolingual)
3. Linguistic (structural control)
4. Translation
5. Other (pupil dictated stories, free conversation, role playing, dramatization, dictation, and taping of speeches).

Since ESL has become a common component of bilingual programs, these methods are still in use although the order in which they are utilized may no longer be that of 13 year ago. Greater specification/differentiation has also occurred.

In 1974, the California State Department of Education (40) issued a framework for bilingual education/ESL for elementary and secondary schools and spelled out a number of methods from which teachers could choose to suit specific situations. These were: 1. translation; 2. use of first language; 3. concurrent use of English and the pupil's first language; 4. separate use of English and the pupil's first language; 5. direct method; 6 cognitive method; 7. audio-lingual; 8. preview-review; and 9. eclectic. This group was later reduced to direct, cognitive, and audio-lingual.

A brief description of each of the original methods, as explained by the department and as elucidated by practitioners, is as follows:

1. Translation method: This uses vocabulary lists with native language equivalents or translations and involves explanations and descriptions of grammar in the pupil's first language. Practice through reading and translation exercises is also provided. The method may help pupils develop a reading knowledge of English but it may not be adequate for the development of basic oral and writing skills.

2. Use of first language: This is to facilitate the learning of a second language. The teacher must use a level of the pupil's first language that is understandable to them. This minimizes confusion and frustration, and enhances the learning of English. The use of the native language is most helpful to give directions, explain difficult points of grammar, draw correlations between the first and second languages, and clarify meanings.

It is also a useful vehicle for the teaching of reading in the second language as previously indicated (207, 148, 65).

3. Concurrent use of English and pupil's first language: Under this method, concepts are explained or taught in one language and then immediately in the other language. The bilingual teacher teaches school subjects in both of the bilingual's two languages by using them concurrently except when language arts is being taught. The teacher avoids resorting to translation but rather explains each concept in each of the languages being used. The specific teaching of the second language per se is not the intent but it does facilitate learning in one language or the other and pupils do hear the second language in meaningful situations. In this method, pupils also have an opportunity to verbalize in the second language in choral repetition of responses to questions dealing with content. DiPietro (99) and Jacobson (149, 150, 151) also explained this method in considerable detail. They felt that the teacher should switch frequently from one language to the other but only when such code switching is pedagogically justifiable. Critics of this method state that confusion of "what language is which" occurs (156). Dulay & Burt (103) also questioned the effects of this method in light of their presentation of the "creative construction process" in language acquisition.

4. Separate use of English and pupil's first language: Instruction is provided in the pupil's first language during a portion of the school day. Instruction is also provided in ESL during another portion. A decided advantage of this method is that the pupil continues to grow in the use of his first language while developing skill in the second language. While some confusion may result, most writers stressed that this method reduces mixing to a minimum.

5. Direct method: The second language is immediately introduced orally. Reading instruction is begun in the second language. It avoids the use of the mother tongue completely. Language instruction is based on step by step progression of grammatical materials. The use of meaningful exercises, instead of mechanical drills, is stressed. Diller (97) alluded to this as a method of language teaching "par excellence." Additional characteristics of the method include practice for communication and comprehension of everyday situations. Dialogues containing all the sentence patterns and vocabulary necessary to communicate information regarding the situations are memorized and reading and writing follow oral mastery dialogues. (148, 113)

6. Cognitive method: The cognitive method involves conscious (instead of rote) learning of patterns and drills. It is used to teach basic rules of language through use of dialogues that exemplify those rules. Oral skills are emphasized. The pupils are presented a number of carefully sequenced structures to help them understand the basic patterns and sounds of English. Pupils generate new structures based on their understandings and

instruction in reading and writing is used to reinforce oral use of the language.

7. Audio-lingual method: This is a method of learning language in which structural patterns in English are characterized by oral drills, with practice and suggestions for their use in class, plus logical sequencing of the introduction of new structure elements (80). The emphasis is on rote learning and drills. Listening comprehension precedes student participation in oral activities. Listening and speaking activities are highly structured, and reading and writing are introduced after oral mastery. The objective is to "provide students, as soon as possible, with useful building blocks of language material which they can use in communication and from which they can generalize by analogy to parallel forms and functions" (244).

8. Preview-review: Under this method, each language is used as a medium of instruction on alternate days. The student hears the lesson in his second language following which he will be given an immediate review in his native language. The children who do not need the preview and review on any particular day work at other tasks. This method is designed to provide for more than random use of a second language and to lift the self image of the native speaker by seeing and hearing his English speaking peers using his first language in the learning of concepts and culture. Critics of this method state that in some cases preview-review may not be as effective as expected since there would "appear to be little motivation to exert the extra effort to attend to information presented in a new language when students have either just heard it in their native language, or know that the content will soon be presented in their native language" (103).

9. Eclectic method: Eclectic simply means a combination and is used when no single method can meet all the needs of a given group of pupils. Teachers may wish to use the combinations in a variety of ways, supplementing them with the use of original or adapted techniques and activities. Finocchiaro (119, 120, 121) added that each of the methods or systems so far developed has some value and in the hands of competent teachers a mixture of these methods would be useful. The ideal eclectic method utilized results of recent research in psychology, sociology, anthropology, and linguistics and fused the successful and non-conflicting elements of methods that have so far been developed. The advice to teachers in this regard is that a method which will work with the student population, with school organization, with respective personalities and environments, should be used.

In addition to these, specific methods were often embodied in approaches or strategies, and sometimes were labeled as methods when they were not. A few examples of these include:

- Linguistic method: This is based on a descriptive analysis of both the sound systems and structural items of English and of the native language. The use of this "method" emphasizes contrastive analysis of language properties and the presentation is highly structured (66, 83, 214, 244). Most of the Center for Applied Linguistics descriptions included methods for following a linguistics approach (249, 279, 283) and these included, in addition to other methods included herein, the use of language in a meaningful context rather than emphasizing drills. Authors using the term "sociolinguistics" generally advocated logical sequencing of the language in the presentations and add in several methods for obtaining positive affective characteristics (70, 73). Psycholinguistics use logical language patterns and combine these through the developmental patterns of youth (234).

- Peer teaching: (100) This is the use of one student in the classroom to act as a teacher for another student or a small group in a given instructional activity. Peer teaching was said to have an advantage over "cross-age tutoring" in that the same child may hold both "student" and "teacher" roles within one classroom, giving both a unique exposure. Peer teaching is probably not a method but it is thus labeled in the literature.

- Community language learning (97) In this method, students sit in a circle and talk to each other in the second language about whatever they wish to communicate. Students may say the sentences first in their native language and the bilingual person tells them how to say the same sentences in the second language. The learner then repeats the sentences as translated. The method involves meaningful practice. It works best if the conversations are taped about 20 minutes. Then the group replays the tape, with the bilingual person writing the sentences on the board and analyzing them for diagnostic and prescriptive purposes. The method is regarded by Diller (97) as an excellent aid to motivation. It has many of the same characteristics and difficulties of the language experience approach.

- Immersion: Immersion requires the exclusive use of the second language as a medium of instruction. It does not resort to the native language as a rule, so that language is learned mainly through exposure and usage. Although often quoted as a method, it is in reality an approach.

- Experience oriented discovery method: This method provides for "democratic" learning and permits the teacher to find out how students are actually interpreting the curriculum. The students are allowed to "discover" for themselves what goes on and to indicate their own interpretations of features in particular situations. It is designed to develop independence and self-confidence. Large amounts of non-verbal encouragement are provided to avoid embarrassing or ridiculing students. It is best used for small groups and peer pairs, according to Deyoe & Solis (95). In the literature descriptions, it appeared to be the addition of several other methods to a type of discovery method prevalent in general education publications.

Tucker (285) alluded to the "traditional" second language "method," according to which language is taught for a given number of hours per week as a part of the curriculum. Most high school second language teaching approaches are of this kind, but as Tucker observed, there is increasing dissatisfaction with it in teaching LES/NES children. The complementation of traditional English programs by the use of the language to teach selected content subjects, e.g., geography, history, or social sciences, seems more acceptable. The rationale is that it provides some practical use for the language outside of the second language classroom but still within the school system.

Several other "methods" were found in the literature, most of them espoused by only one author. Transactional analysis was described by Love (192) as a method; its description made it appear as a psychological approach translated into Spanish. A practice drawn from speed reading combined more than one method but gave careful directions for carrying it out (29). Boggs & Dixon combined pictures with reading as a method (30). Klemm (171) detailed two methods for teaching spelling. Lado (174) took pattern practice and outlined it as a method with appropriate techniques. The discovery method was the chief one described by Lavatelli (181) within the Piagetian approach. The utilization of library skills was carefully described as a method by Montemayor & Stillman (209).

The phonetic (and the phonemic variation), sight memorization, choral recitation, discussion, show and tell, story/essay writing and reading, summarizing, question and answer, problem solving, experimentation, and general discovery methods listed were not perceptibly different from those used in general education. Indeed, in reading the vast amount of meterial labeled "methodology," most of the methods are taken for granted and are not explained.

In varying degrees of application, all the previously described methods are being used to teach LES/NES children. Those listed most widely in the literature, whether or not they are methods, are team teaching, immersion, eclectic, and the preview-review. There seems to be more evidence for some of the first language than for the second alone (129), although straight ESL has been found successful in a few cases (8, 127, 259, 248).

The audio-lingual method, based on research by B.F. Skinner, the behaviorist psychologist (67), holds that language learning is habit formation. Thus it emphasizes rote learning and drilling. On the other hand, the cognitive method, based on research by N. Chomsky, the linguist (66), holds that language learning is "an innate species-specific, biologically determined behavior." Language learning is based on the learning of rules and it is a cognitive process, Chomsky says. Thus, there should be a conscious learning of patterns and rules instead of merely using mechanical drills.

Although these two methods appear to be mutually exclusive, they actually need not be, since they can compose a whole process. Many second language programs now in fact combine the two (291).

Saville & Troike (249) contend that in a classroom situation, language teaching does require a systematic and sequential presentation of structural elements for maximum effectiveness and efficiency, and when provisions are made for different interest levels and attention spans, the language "drill" is compatable with other methods.

The peer teaching approach is regarded by some authors as particularly appropriate in bilingual classrooms and specifically for Spanish speaking students. Dixon (101) stressed that learning styles, as borne out by results of recent research, represent a critical variable in the education of the culturally different, and the neglect of this crucial variable is a cause for the failure syndrome, especially among Mexican American students. Although some early research seemed to bear out some cultural differences, most recent studies, as previously discussed, deny them -- and even their existence (57, 167). The "method" appears to have no more application to Mexican Americans than to other students.

While the cultural argument has lasted longer than many, almost every method in the teaching of English to bilingual children is disputed somewhere by someone. On the other hand, little independent research evidence is available for the methodologies that are listed as "successful." Authors "say" methods are good or bad, and present theoretical reasoning for their judgments, but not research evidence. Methods for teaching English to bilingual students are chosen subjectively for the most part.

Spanish Methods

First, the publications rarely deal specifically with Spanish when describing methods. They argue that it should, or should not be taught; they tell how Spanish speakers differ from others. Some deal very summarily with Spanish teaching methods, primarily that little emphasis is needed on phonetics since most letters have only one sound, or that more emphasis is needed on teaching the diacritical markings and verb forms since these are more complicated than in English. A few outline specific methods, and even though they do not differ essentially from those for English, the citations are listed as help to those who need references: Cohen (72, 75), Diller (97), Horn (155), Lavatelli (181), Modiano (207), Rosen & Ortego (245), San Diego Schools (247), Southwest Educational Development Laboratory (256), and Texas Education Agency (192). Some are also discussed in the Saville & Troike (249) handbook.

Methods for Teaching Other Languages

Aside from the quite detailed methods for teaching French, published in Canada and typified by Swain (262), methodologies for other languages are very scarce. Diller (97) and the previously cited Saville & Troike (249) handbook contain some brief discussions on several languages. Battiste, Bond & Fagan (21) offer some assistance on Native American, some Indo-European, Asian, and

Pacific Island languages. The Willink (302) treatise includes methods for Navajo. Delaney & Van Hooft (90) gave suggestions on Southeast Asian languages; Xuan (306) was more specific on Vietnamese, as was the San Diego City Schools (247). Tsu (284) was fairly explicit on Chinese. The San Diego Schools continua (247) have worthwhile method descriptions for Tagalog, one of the Philippine languages.

Techniques and Activities

Techniques were defined as a set of specific acts by the teacher and/or students in accomplishing one or more objectives. As a more discrete and specific term than approaches or methods, techniques form an almost unmanageable body of instructional practices in current literature. In the survey sponsored by the National Council of Teachers of English (6), the most popularly used techniques in teaching English to LES/NES children were listed as:

1. oral reading
2. picture stimulus for recitation
3. pattern practice
4. verse speaking
5. mimicry-memory (Mim-mem) drill
6. grammatical description
7. dictation
8. other (color slides, conversation, conference, discussion, direction-action, drama, field trips, flash cards, games, pantomime, passive listening, puppets, songs, and speeches)

These techniques (some are methods, activities, or materials) are self explanatory and need not be described here. However, their utilization in actual classroom situations varies, dependent on teacher training and energy, availability of resources, specific objectives, subject and content areas, and the age of students.

Allen (7) and Derrick (91) underscored the rapid use of language drills or repetitive exercises in quick succession so that they become absorbed into the automatic language habits of the pupils. Games for identifying objects and people, using simple introductory structures, and for practicing slightly more advanced language (e.g., plurals, unaccountable nouns, parts of the verb "to be"), as well as traditional playground games, are very effective techniques for teaching in a bilingual setting. Visuals and aural aides (e.g., radio, tape recorders, language masters) should also be used. They added that drill patterns in order to be meaningful must be used creatively so that students will volunteer while the pattern is being practiced.

Cohen (73) reported that repeated teaching, alternate day teaching of the language, simultaneous translation, and functional specialization are also techniques that can be used to achieve positive results. Writing practices based on storyline of the reading activity were also found to be effective in a Title I, ESEA case study (76).

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"Glossing" is another technique developed in a two year reading improvement project in the Tolleson, Arizona, schools (29). This is a practice in which all teachers in different areas plan their daily lessons as usual, but in addition, each of them must list difficult vocabulary and idioms used in each particular lesson and define the items in simple language as they relate to the classroom activity. All students receive the lists and a brief discussion of the new terminologies precedes actual lessons. Impressive results were reported from this technique.

Deyoe & Solis (95) noted from their observations that behavior modification, programmed learning, and other "authoritarian" techniques can be used effectively to teach certain kinds of skills and information to LES/NES children. Various kinds of programmed learning and intensive skill practice are useful in teaching specific information which needs to be memorized or skills which need to be internalized until they become automatic. However, such learning should be perceived as purposeful, meaningful, and useful or it will be forgotten. Also, programmed learning should not be used where more "democratic" methods are available. The same writers advocated open ended learning techniques.

ESL structured techniques (e.g., linguistic drills, repetition, substitution, transformation, and replacement) are said to have limitations (111). A teacher must consider the type of drill to be used, the age of the student, time span, interest of student, and relate the drill to functions, skills, and aural discrimination. Unstructured techniques such as observations, question/answer, memorization, dramatization, recitation, songs, games, and dances were reported as effective tools for teaching.

Standard exercises useful for basic, intermediate, and advanced instruction according to Siegrist (251) have appeared to be useful for language teaching in bilingual education. These are substitution, change-to-question, question-answer, interrogative-word-question, fill in the blanks, tense-change, and sentence completion. Special patterns should include pronunciation, dialogue, work study, free conversation, reading, and dictation.

Saville (248), Saville & Troike (249), and Finocchiaro's writings (119, 120, 121) presented a wealth of tested techniques now in use in ESL/bilingual programs. They provided exercises, drills, activities, sample lesson plans, and specific unit lessons which teachers can utilize in the development of basic oral-aural abilities, reading and writing skills, fostering and utilizing language learning, individualized instruction, and creating a desirable classroom climate.

For oral language development, Tanaka, Director of Development Associates' contract on the Head Start Bilingual Resource Center, reported that the use of pictures without words is proving to be effective for bilingual programs at the preschool level. Particularly for languages in which no materials are available, this technique provides opportunities for children to express themselves in their own language, while developing story sequence, indications of time, and the like. It was reported as a very good beginning program for preschool children.

As for reading and the bilingual child, Ching (65) presented techniques and practices that have been used by teachers of bilingual education and were stated to be valuable in the development of reading skills. Specific steps and guidance are provided for the 1. development of motivation and self concept; 2. language development; 3. development of auditory discrimination; 4. vocabulary and concept development; 5. development of grammar; and 6. oral language development. Equally noteworthy is Henderson's step-by-step guide that was said to guarantee reading success (152). For bilingual children in the first grade, techniques are outlined for the mastery of four stages: 1. readiness; 2. sight learning; 3. transition between memorization and word recognition; and 4. independent word recognition. The guide covers techniques in remedial reading, oral reading, and writing.

Other techniques or activities described in the literature can be gleaned from a study of kindergarten children in a bilingual open classroom in Austin, Texas (226). It was found that immersing or surrounding the children with print cards would greatly benefit the child and facilitate their reading ability. During the first few weeks, the children were introduced to different areas of the classroom through the use of brightly colored bilingual signs, e.g., library/biblioteca, restroom/baño, art center/centro de arte. Each child's language dominance was determined through teacher observation and the Primary Acquistion of Language Test. On the basis of the results, the children were then grouped accordingly for English reading, Spanish reading, English oral language, ESL, and Spanish as a second language. Through the use of alternate languages on a daily basis, the children learned to read in a few months time.

Ability grouping, or grouping and regrouping within a classroom for instruction in particular subjects are also prevalent practices. Findley & Bryan (118), however, suggested that ability grouping should be used cautiously because of conflicting evidence on its usefulness. They noted that it may be used to great advantage if the ability grouping is for learning of individual subjects or related subjects on different bases related to progress in mastering the different areas (for example, language arts versus mathematics) in association with the generality of children of the same grade in non-academic areas. This has been sometimes referred to as "achievement grouping."

Cited also as activities to meet individual needs in second language learning are individualized and small group instruction. Through these two broad interrelated activities (which should probably be more aptly designated as directions of instruction), the teacher could present a myriad of ideas to help meet individual needs of students, including the efficient use of short range objectives, affective learning activities, suggestions for learning centers, learning activity packages for enrichment purposes, small group responsibilities, and many others. Unfortunately for these activities, current reseach on them is still much too sparse to generate any firm conclusions about their effectiveness (175).

The foregoing discussion assembles virtually all the techniques and activities that have been found in use in bilingual programs. In using them for the bilingual child, it is especially stressed that the language skills of the bilingual child can be developed and internalized. Ching (65) emphasized that what essentially is needed is a teacher who understands, appreciates, and respects the cultural background of the child; who knows the phonemic and grammatical differences between standard English and the child's first language so that he can help the child with his linguistic needs; and who is knowledgeable concerning the various techniques so that he will be able to select and utilize those that best meet the particular needs of the bilingual child.

Epilogue

Notwithstanding the amount of information gathered in this review, classroom instructional practices in bilingual education are still not in the forefront of current literature. They continue to be in the background and are obscured by other issues and aspects of bilingual education. A great deal of materials describing bilingual programs in general was encountered from multiple sources and perspectives. This included treatises and doctoral dissertations dealing with bilingual program models, intelligence and language proficiency assessments, language and culture, curriculum development, and comparative studies on bilinguals and monolinguals based on student achievement on varied tests. In this regard, no less than 247 titles and abstracts of doctoral dissertations have been compiled by the National Dissemination and Assessment Center - ESEA Title VII at the California State University in Los Angeles. Also encountered in the review were various researches and studies, as well as composite reviews of literature which confirm or question the effectiveness of bilingual education. The more popular examples of these are the Epstein monograph (114), Zappert & Cruz research evaluation report (307), the American Institute of Research (AIR) study (8), Troike's publication (281), and the Dulay & Burt survey report (108).

Although evidence appears to support the efficacy of bilingual education, opponents are not satisfied with its generalizability. Much of the criticism on research findings stem from statistical failings. Until error free studies can be developed, the debate is certainly bound to continue. Tucker (287, pp. 74-75) observed:

> After recently conducting a research evidence search concerning the efficacy of bilingual education, I was struck by how little research has been conducted in the United States to date despite the fact that Title VII (and other) funded programs have now existed for a decade . . . . We haven't even begun to establish the necessary

well defined program goals and objectives, employment of experienced teachers, strong staff development program, acquisition of and familiarity with bilingual books and materials, good programming procedures and curriculum development, establishment of neighborhood and district wide bilingual advisory committees composed of parents, involvement of curriculum specialists to serve as an educational resource team to critique the program and make recommendations for its improvement, and continuous process and product evaluation of the program. Those were known long before bilingual education began.

More literature and special studies on classroom instructional practices, however, can be expected in the future. Apparently in response to a critical need, the US Department of Education recently requested research proposals for a descriptive study of significant bilingual instructional features and some three other complementary studies aimed at identifying:

1. Bilingual instructional practices most effective in helping students;

2. Behaviors and instructional features of bilingual classrooms affected by attitudes of parents, teachers, and students about language, culture, and bilingual education; and

3. Instructional practices in non-public bilingual schools. (60)

A compendium of bilingual education and related projects with the National Institute of Education also includes a study by the Southwest Educational Research Laboratory in Austin, Texas, dealing with the teaching of reading to bilingual children. The study, which is expected to be completed in November, 1981, is designed to track the progress of some 1,000 children (K-4) in Texas schools. The first phase seeks to identify reading methodologies that produce the greatest achievement for children of particular cognitive styles given the setting in which reading instruction occurs. The second phase will determine the extent to which the compatibility of reading methodologies used for teaching Spanish and subsequently in English, facilitates the English reading achievement of bilingual children of various cognitive style orientations. (292)

Similarly, an evaluation of the classroom component of the ESEA Title VII Bilingual Education Program is in the process of being conducted by Development Associates for the US Department of Education. The contract will study a cross section of bilingual projects across the United States. The first objective is to describe the characteristics of a sample of projects which appear to represent distinctly different approaches to the education of children with limited English proficiency. The second is to determine the projects' objectives and the relationship between skills actually addressed by the projects and those skills necessary to function effectively in an all English speaking classroom (94).

> data base upon which we shall be able to draw inferences 10 and 15 years from now concerning the cumulative impact of an educational innovation.

For purposes of this review, one would expect that the available studies on the effectiveness of bilingual programs should at least yield some identification of specific classroom practices contributing to either the success or failure of a program. Such, however, is not the case. The difficulty of the matter is ostensibly due to the complex web of factors and variables involved in bilingual education. In the words of one author (113):

> It is difficult to isolate the effects of each factor or component from others, and few attempts to separate the components have been made in literature. Therefore, we have difficulty in identifying the factors which contribute to the success or failure of a program.

Abt Associates (140) in a survey report on January 1, 1980, observed:

> There is not a single source in the survey that examines, through statistical means, the effectiveness of specific features in bilingual education for children. All of the evaluations instead compared monolingual and bilingual programs, mostly using variations of the quasi-experimental paradigm.

For all practical purposes, Abt Associates concluded that any instructional features study must start from scratch in estimating the effects of specific features and identifying effective bilingual education models.

Blanco (28, p. 470), in his recent studies on the implementation of bilingual programs in the United States, expressed similar findings more vividly. He stated:

> While one often sees the terms "bilingual methodology" and "bilingual teaching techniques" used widely, there is really no indication of their existence. What turns out to be "methodology" is, in reality, the use of two languages in the instructional program. The issue becomes one of classroom management and . . . the treatment of languages of instruction is vital to the success of the program. The ratio of time devoted to the use of the two languages and the overall goals of the program, whether maintenance or transitional, would determine to a large extent the success or failure of a bilingual program.

Given the above status of research on classroom instructional practices in bilingual education, it is not surprising that many authors could come out only with suggestions and guidelines which appear to be basic and potentially fruitful for the success of any bilingual program. A summary of these recommendations includes well defined program goals and objectives, employment of experienced teachers, strong staff development program, acquisition of and familiarity with bilingual books and materials, good programming procedures and curriculum development, establishment of neighborhood and district wide bilingual advisory committees composed of parents, involvement of curriculum specialists to serve as an educational resource team to critique the program and make recommendations for its improvement, and continuous process and product evaluation of the program. Those were known long before bilingual education began.

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Two projects of the California State Department of Education, Office of Bilingual Education, are also worth waiting for. One is the publication in the near future of a theoretical framework for bilingual education, which will deal with second language acquisition, first language development, reading in both languages, sociolinguistic factors, and classroom practices that promote first and second language development. Notable researchers and practitioners have been commissioned to develop the publication. The other project deals with Asian minority language groups. As planned, each of some thirteen language groups would develop a handbook that will include suggestions and recommendations on classroom instructional strategies suitable to each particular group.* The Research and Evaluation Office of the California Department of Education is also working on plans to identify some common programs and track a group of students through several years' exposure to them. That could be one of the most important research projects conducted on bilingual education that has ever been done. Hopefully, the studies mentioned, when completed, will yield solid information on bilingual classroom instructional practices and thus contribute to the advancement of bilingual education.

Implications and Policy Issues

The reviews of the literature on promising practices in providing services to limited and non-English speaking students were to be restricted primarily to:

1. those instructional components utilized in the elementary grades; and
2. those for which some evidence of their effectiveness was available.

The first restriction was generally possible to maintain through the descriptors entered into the computer searches and the manual examination of titles and abstracts. Some practices extend across the grades and thus were included. Other practices were described with no indication of their intended grade applications. When in the judgment of the reviewer these latter were worthy of inclusion, they were incorporated.

The second restriction, evidence of effectiveness, was difficult to manage. Much of the literature about instructional practices is expository with little or no presentation on how they function in the programs. Many of the cited authors had devised, adopted, or adapted the practices, and either put them into practice or observed them in practice. They then reported that program officials, teachers, parents, or students "liked them" or "did better" through their implementation. A few gave data from criterion referenced or standardized tests, rarely with enough specificity for assessing the quality of the tests or the results.

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*As gathered from a visit to the Office of Bilingual Education in Sacramento on October 22, 1980.

The evidence of more formal studies presented three problems.

1. "Bilingual education" was contrasted with other types without detailing the instructional components included.
2. Even when some specification of practices was provided, the terminologies were so vague they precluded judgment.
3. The evidence from different studies of the same practice conflicted; some was positive and some negative.

Further, even when the practices were properly described and controlled as variables in the research or evaluations, they often failed to produce significant differences. This was especially true of the recent literature in which a trend toward significance appears to be consistent only for the practice of direct learning activities as measured through amount of time and intensity of teacher/pupil interaction.

Practices Specification in the Literature

As a generality, the literature on practices presents few details of *what*, *how* and *when* instructional components are to be conducted. An enormous amount of the space is devoted to *why*. In a college textbook commonly used for teacher training, for example, 306 of its 378 pages are devoted to the history and need for bilingual education, generalizations about teachers and communities, and legislation. The remaining 72 pages are about evenly divided between testing procedures and instructional practices.

The one area within the literature on practices that contains substantial detail is the formal English as a second language (ESL) programs. Building on the work done with adults in World War II, together with advances in linguistic analysis, several very detailed and substantial programs have been developed. Most of these are based on language skills with approach, process, methods, techniques, and materials aggregated into a model. While evidence of their effectiveness is not conclusive, the literature on ESL programs provides systematized guidance instead of a series of weakly related activities.

Detailed descriptions of practices in teaching Spanish are infrequently presented despite the numbers of Spanish speaking students and programs, and the years the programs have been in operation. Some of what is written is vague and incomplete; some contains linguistic anomalies. Three were encountered that contained sufficient information on skills, approaches, methods, techniques, and materials to merit consideration for elementary programs. Two of the three present some research evidence of results; the third has some evidence, and the research continues.

Specificity on the teaching of other languages is available on Chinese, Tagalog, Vietnamese, Navajo, and French, but only in one or two publications. The literature on the teaching of French, for grades K-12, comes primarily from Canadian sources but some is from Louisiana. Systematized practice information is available on Tagalog and Vietnamese for the first three grades. The practices and materials for the other levels and languages appear to be in the developmental stages.

There is also a body of worthwhile but heterogeneous information on single methods or techniques, on a grade level (especially preschool and kindergarten), and on materials. Sometimes evidence on effectiveness exists but most often it is lacking or inconclusive. When a particular problem is encountered in teaching limited or non-English speaking pupils, these publications may be of assistance.

Quality of the Practices Literature

With the relatively few exceptions cited in the body of this review, the literature about instructional practices is of dubious quality. The writing is frequently difficult to read. The terms are used in confusing ways, as this sentence from a state teacher's guide illustrates:

> The best method is the technique of the bilingual approach in teaching Spanish speaking children English.

Allowance for cognitive styles is variously presented as a model, approach, strategy, process, method, and technique. Teaching word attack skills is also listed with all these labels. While a term or label is not necessarily important in itself, anyone trying to systematize the teaching practices will experience great difficulty in establishing logical sequences from the literature.

Probably the most serious quality problem within the literature on practices is the mixing of what "needs" to be done for effective teaching with what "ought" to be, according to the predilections of the author. Chinese students need teachers who are compatible with their culture, therefore the teachers should be Chinese. But Anglo teachers, because they are English speaking, should teach the ESL component. Neither of these statements is necessarily sound; neither teacher may know how to teach; neither may present the desired speech model for teaching the language arts course. A high percentage of the literature contains this type of illogical reasoning, not only in relation to language but also to almost any other topic treated. Tests of effectiveness rarely enter into the exposition. The subjective quality judgments appear more important than whether or not children learn. There are exceptions to this, of course, but they are very few for the volume of the literature.

Policy Implications

As is obvious, few meaningful guides exist in literature concerning instructional practices in bilingual education. Discussions of practices tend to be general, and little specific information is provided for programs wishing to utilize them. Some of the more complete guides are commercially produced, and their effectiveness is not always borne out by independent research. Further, the conflicting use of terminology in the literature is very confusing to practicioners. Finally, conclusions relating to practices are not only for the most part judgmental but also are not generalizable.

Some research results exist, however, but they are not widely known by practitioners. In cases where research results are "known," they are often misinterpreted. Therefore:

> *Policy makers should designate resources to search the literature (especially that in which effectiveness is measured), prepare easy to understand summaries, and disseminate these to practitioners.*

This process would facilitate the incorporation of proven instructional practices into the classroom teaching.

Program officials and teachers have, in fact, reported that they experience a great deal of difficulty in finding the information they need for the formulation of program designs or revising them. Those difficulties should be understandable. To find the specifics needed for classroom implementation of most program components, volumes of material must be pored through and sorted out. And even then, the confusion of terms, unsubstantiated claims, and conflicting evidence make choices problematic. Given this state of the art,

> *Policy makers should be aware that the development of bilingual instructional practices and evidence to confirm or disconfirm their effectiveness needs more concentrated, more specific research work. Efforts in that direction should be encouraged.*

The guidelines necessary for further research should define specific instructional components and avoid treatment of bilingual education as a type in itself. The specification of practices and the use of terminologies should be clear and precise to eschew the difficulties encountered in literature. Effectiveness or non-effectiveness should be demonstrated and accompanying conditions specified. In this regard, the orientation of studies now in progress or yet to be conducted (as mentioned as the end of the literature review) appears to be in the right direction. No doubt their results will contribute to more useful literature.

Classroom teachers are the major vehicles of instruction and the strengths or limitations of any teaching methodology must ultimately depend upon them. It is often said, rightly or wrongly, that there are really no bad methods; there are only bad teachers. Realistically, instructional policies cannot be separated from policies concerning the recruitment and appointment of classroom teachers.

> *Policy makers then should strengthen standards and measures in the recruitment and appointment of teachers to ensure that only those qualified are assigned to bilingual education programs. Staff development and training should receive close scrutiny and should be strongly emphasized in bilingual programs.*

The combination of research results, translated into teacher training programs, and then transported to the classrooms, will cause effectiveness to rise. The next chapter links these policy implications from the survey of literature (Phase I) to the field study on instructional programs in the California study (Phase II).

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CHAPTER IV: PUPILS, PROGRAMS, AND INSTRUCTION

A primary thrust of the study of the California services to limited and non-English speaking pupils was to provide information on the effectiveness of the several programs in their delivery of education. Development Associates therefore began to gather data about the programs specified in the AB 1329 legislation: full bilingual, bilingual-bicultural, partial bilingual, and the individual learning plan. During the first data collection with the district officials, it became obvious that these categories were not seen as adequate descriptors; officials had a great deal of difficulty in classifying what they were doing under these four programs. The officials were then asked to describe their programs in their own words.

In subsequent interviews with the school officials, incongruities began to develop between how the district and school authorities described the programs. Teacher descriptions varied from those given by school officials. It thus became clear that classroom observations would be needed to ascertain the nature and extent of different programs within the services rendered. A relatively high congruence was found between what the teachers said and what was found in the classroom, although some variations were still found. Still greater differences were discovered between the particular practices teachers reported in use to implement the program and those observed in action.

Research Procedures

The sample districts were chosen purposively to be broadly representative of the services to limited and non-English speaking pupils in the state. After careful study of the composition of the pupils and the programs in the schools within each district, the schools were again chosen purposively to give a range comparable to the district as a whole while at the same time, and in so far as possible, incorporating schools into the sample that would present programs for different language groups. Classrooms were selected similarly but with the addition of grade representation. Every child in every sample classroom was included in the student sample.* Many schools also had students on individual learning plans that were not comprised within the selected sample classrooms. Two different samplings were designed for them: 20% of all pupils was randomly chosen after stratification by grade and language; classrooms with five or more individual learning plan (ILP) students were studied in their entirety.

**In some cases, especially in departmentalized junior and high schools, some students were in more than one sample classroom; in that case, they were left in the one most representative of the language development assistance and removed from the others. The instruments were presented in the several interim reports and are also included in Volume III, Technical Materials, of this final report.*

To help appreciate the different configurations of the sample populations, indications of the subsets are displayed in the tables; those with any English test scores across the years, those with 1980 Spanish test scores, those with no scores, and the total number of sets. Finally, since the 1980 English scores were much more complete than 1979 or 1978, the English reading score subset for 1980 is shown. In the sixth chapter, which discusses scores per se, the exact cell size for any variable or combination of variables will be displayed separately.

The Pupils

The 10,121 pupils included in this study represented every student present in the classrooms in the fall data collection and those that had entered since that time and were present in the late spring collection, plus those students on individual learning plans selected for the sample. A few students entered and left the classes between the two data collections; they were not included in the sample. The full name of the student was obtained so that district and school information about them could be traced backward to previous achievement scores and forward to those of spring 1980, and so that information on language, English proficiency, socioeconomic status, and student status could be ascertained. An identification system allowed for the inclusion of all the data into the computerized system without attaching the pupils' names to those data and yet allowed for finding them within the system when that was necessary.

Research Sites

The 15 districts, 74 schools and centers, and 276 classrooms were coded into the data of each individual student as a part of the identification system. Every site had at least two programs and a few had as many as five; many classrooms contained two programs. Site, then, was not a viable unit of analysis for most of the calculations. It was useful, however, in the examination of some of the psychometric properties of the achievement tests as described in the sixth chapter. Additionally, a major goal of the purposive approach to sampling was to provide a wide variety of programs, pupil characteristics, and instructional practices. As will be seen from the descriptions and analyses, that goal was well served; nearly every known program element was present within the studied sites. The few exceptions will be discussed in the appropriate section so that future research can take them into account.

Grades

The number of students in programs for limited and non-English proficient pupils was highest in kindergarten through third grade and diminished fairly rapidly thereafter. The sample design for this study was expected to yield a similar pattern. An examination of the grade distribution in Table 7, however, shows some

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differences from the anticipated pattern. The kindergarten and first grades were somewhat lower. Two occurrences influenced these numbers; in the first place, both had smaller enrollments within each class and there were fewer classes than anticipated. Second, access to kindergarten and first grade classes was restricted in two districts.

Table 7: Distribution of Students by Grade in 1980 and Incidence of Achievement Scores*

Grade	All Sample Students	Any English Score 78-79-80	Any Spanish Score 80	No Scores any Year	Special Subset: Eng. Rdg. 80
Kindergarten	678			678	
First	1239	807	147	285	775
Second	1305	904	201	200	838
Third	1062	796	119	147	721
Fourth	1057	763	162	132	722
Fifth	1085	770	208	107	729
Sixth	840	624	95	121	530
Seventh	914	458	141	315	366
Eighth	700	327	81	292	308
Ninth	682	376	74	232	299
Tenth	280	227	1	52	190
Eleventh	241	181	2	58	165
Twelfth	179	144	1	34	121
TOTAL	10262	6377	1232	2653	5764

**241 students had both English and Spanish scores for the same year. Thus the total number of individual students in the study was 10,121; the 241 were distributed about evenly from first through sixth grades.*

Grades five through nine were probably greater than in the statewide pattern. In order to obtain sufficient numbers for the analyses, a higher percentage of those classes had to be sampled. Additionally, the inclusion of students in ESL programs, often not considered when "bilingual" programs are studied, increased the number in the sample. Despite these variations, the overall grade pattern did not differ to any degree that would seriously reduce the generalizations possible from the analyses. One factor did cause problems, however, and that was the low incidence of scores for some subtests for some years. The Ns for each will be presented with each analysis.

First Language

When the research was begun, language dominance was expected to be a student characteristic that could be analyzed. However, some serious problems surfaced almost immediately. The major difficulty stemmed from the lack of instruments and other resources necessary to determine primary language dominance. This was especially problematic with the languages other than Spanish. That a student could speak Gujarati, for example, could be determined; how much of it he spoke could rarely be measured.

A second problem arose from the use of generic terms for languages rather than the specific names applicable to them. The home language survey form used by many districts for persons from China resulted in the classification of the child's language as "Chinese." The study sample students actually spoke eleven different languages, for the most part not mutually intelligible, from three different language families. A subset of this problem was the classification of a child's home language as Cantonese if he could communicate in that language at all.

The second problem with generic terms was the use of the term Pilipino or Filipino as the language "dominance" of children from the Philippines. That country is in the process of adopting a national language and generally applies the name Pilipino to it, although the language is primarily Tagalog. By actual count, those from the Philippines spoke nine languages from that region plus a language from India; the fact that nearly all of them spoke a considerable amount of Tagalog ameliorated the instructional problem, even though it complicated the "dominance" measurement.

The next problem was found among the students from Indochina, most of whom had resided in Vietnam. The majority of these students was listed as Vietnamese speaking but, in fact, their first and often their major language was one of the others from Indochina or one of the languages of China. Finally, there were other scattered problems among the language classifications. Several children listed as Spanish speaking were from Indian groups in the US and other nations of the Americas. All of these spoke Spanish as their second language. A few others were simply mislabeled from misinformation on the home language survey or because no survey form was completed.

The research team decided, then, to ask the students themselves and to list as primary language the first language learned. No attempt was made to determine "dominance" or "proficiency" since neither the instrumentation nor the resources were available for such measurement.*

It must be noted that many of the students listed as Amerindian were actually fluent English speakers and that fact was recorded in the data. If a student said he spoke any of his Amerindian language, he received that primary language classification in this study, in addition to the English proficiency classification.

The total number of first languages spoken by the sample students was 95. Many of these, however, were represented by only 1 to 10 students and meaningful analyses could not be performed by each language. Consequently, language groupings based on language families and geographic areas were used to aggregate those who otherwise appeared to have similar characteristics. The aggregations were somewhat arbitrary; because of this, some analyses were performed using single languages when their numbers were great enough to permit such calculations; exceptions within the language groupings will be noted when they differed importantly. Four languages were kept separate from the groupings: Japanese, Korean, English, and Spanish.

The distributions by language groups are shown in Table 8. Further, their numbers are divided by those with English and Spanish achievement scores, and those with none at all, so their contributions to the means can be appreciated. The vast majority of the study students spoke Spanish as their first language: 6231 (60,7%). English as a first language was the next largest group, making up 13.4% of the total.* The languages of China comprised 8.6% of the students. Those from Indochina accounted for 4.2%, the Philippines 2.8%. All others made up about 10% of the total.

The proportion of students with no achievement scores varied a great deal among the several groups. This occurred partly when a language group was located primarily within sites that conducted minimum testing and partly because others did not test certain limited and non-English speaking students in English.

Since most of the analyses in the following chapter will use the achievement scores, the most meaningful statistics about the sample composition are those in the columns for English and Spanish achievement scores, and the example subset, English reading, 1980. As a generality, the numbers are about as expected from the sample design, with the exception of the Koreans; it was anticipated that a higher proportion of them would have English scores.

Several languages within the language groups merit mention. Among the China group, Cantonese accounted for 711 (81%) of the 880. The Farsi speakers were 58% of the MidEast/Africans. Tagalog comprised 67% of those from the Philippines. Vietnamese were 68% of the Indochinese. Those speaking Panjabi were nearly three-fourths of the India/Pakistan group. Within the "other Europe" category, Portuguese had 46% and Armenian 25%, due primarily to bilingual programs represented in the study.

English should not be confused with ethnicity; only about half were what is commonly termed "Anglo." The rest were from all the different ethnic groups, especially Mexican American, but they had learned English first.

Table 8: Distribution of the Students by Language/Language Group and by Incidence of Achievement Scores*

First Language	All Sample Students	Any English Score 78-79-80	Any Spanish Score 80	No Scores any Year	Special Subset: Eng. Rdg. 80
Amerindia	231	212	4	15	210
China	880	661	8	211	597
MidEast/Africa	64	51	1	12	46
Philippines	287	216	19	52	192
Indochina	434	300	0	134	279
India/ Pakistan	111	105	1	5	103
Pacific Territories	39	34	1	4	32
Japan	103	96	0	7	91
Korea	178	78	6	94	70
Spanish	6231	3430	1079	1722	3041
English	1371	946	86	339	867
Other Europe	346	250	20	56	236
TOTAL	10262	6377	1232	2653	5764

**Students total 10,121 since 241 students had both English and Spanish scores.*

English Fluency

English fluency, naturally, was expected to affect the English achievement test scores. The classifications - fluent, limited, and non - were collected from the school records. Subsequently, teachers were asked to review them and change any that were not correct. Some students had no school classification and the teachers were asked to supply those. The teachers changed relatively few of the official classifications. Those that were changed, in the order of their incidence, were modified because:

- The student's fluency in English had improved since the assessment; this accounted for more than half the changes.
- The classification was too high and the teacher down graded it; most of these, according to the teachers, were because reading and writing were not taken into account for the assessment; these amounted to about a fourth of the changes.

- The classification was too low and the teacher upgraded it; generally this was because the student were judged to be very proficient in reading and writing even though they still may have had some problems with oral English; these comprised the other fourth of the changes.

Spot checks were made between the changed classifications and the English achievement score in reading. In so far as those scores reflected fluency, the teachers' judgments appeared to be correct.

Table 9: Distribution of the Students by English Fluency and by Incidence of Achievement Scores*

English fluency	All Sample Students	Any English Score 78-79-30	Any Spanish Score 80	No Scores any Year	Special Subset: Eng. Rdg. 80
Fluent	3389	2483	347	669	2297
Limited	4144	2683	460	1001	2393
Non	2729	1211	425	1093	1074
TOTAL	10262	6377	1232	2653	5764

**As previously stated, these are score sets; the students are 241 fewer or 10,121.*

The lower number of non-English speaking students with achievement scores was disappointing but not unexpected. Many schools had a general policy not to test those students with the English achievement test (although scores were found on some students even in those schools). Nevertheless, the number was large enough so that even when divided by the frequencies of other variables, most analyses could be accomplished. The incidence of the three English fluency classifications among those with Spanish test scores was more evenly distributed. Among the 241 with both English and Spanish test scores, however, the non-English speaking students were represented by only 18%; the rest were nearly evenly divided between fluent and limited. Unfortunately, no Spanish fluency measure was available on the students with Spanish test scores. While many schools tested Spanish fluency, few recorded anything except the general category (Spanish dominant, bilingual, English dominant) and the final classification (fluent, limited, or non-English speaking).*

**The Spanish achievement scores given in Chapter VI show that the fluent English speakers among those with Spanish scores were also not only fluent but also highly literate in Spanish.*

Socioeconomic Status

Most research has found achievement score differentials according to the socioeconomic status of the pupils. Although complex procedures for determining levels were impossible for such a large sample, official school records provided a simple division. The calculations for eligibility for free and reduced price lunch programs are based on family income and the number of family members, thus resulting in an economic division. Obviously great differences exist among those not qualifying; nevertheless, the official determination was a preferable procedure. The terms *low* and *above* were utilized for the designations, with *low* referring to pupils who received either the free or reduced price meals.

Table 10: Distribution of the Students by Socioeconomic Status and by Incidence of Achievement Scores*

Status	All Sample Students	Any English Score 78-79-80	Any Spanish Score 80	No Scores any Year	Special Subset: Eng. Rdg. 80
Low	8186	4972	914	2320	4462
Above	2056	1405	318	333	1302
TOTAL	10262	6377	1232	2653	5764

**The Ns are score sets; the students are 241 fewer or 10,121.*

The number of students in the *low* category was about three times that in the *above* group when their English and Spanish achievement scores were examined. The *low* socioeconomic status students were less likely to have achievement scores. Despite the differences, the numbers were large enough to allow examinations of the achievement scores by socioeconomic status in the calculation and that variable's influence in relation to other variables in the study.

Student Status

Although seldom differentiated in research, the long teaching experience of the Development Associates team pointed to some definite classifications that should be taken into account. One of the most obvious was special education students. An official process for placement into that category is very carefully conducted. Two potential problems could occur: that even though a child should be in special education, if his parent refuses, there is no recourse; second, some students are placed in the program for reasons other than learning problems. Despite these two possibilities, it formed a rather secure base for such a division. Special education took precedence over migrant in the coding.

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Migrant education, too, has a substantial investigation into the movement of the pupil and the parents, the family income, and some special factors such as size of family and/or health problems. Each school with a migrant program has a list of the students that are entitled to the services. It was already known that almost all the migrants would also be on free/reduced price lunch. In spite of the overlapping, it allowed for analyses on the migrant population in case it should be different from the other students. All students not officially classified as migrants or special education were coded as "regular."

Table 11: Distribution of the Students by Student Status and by Incidence of Achievement Scores

Status	All Sample Students	Any English Score 78-79-80	Any Spanish Score 80	No Scores any Year	Special Subset: Eng. Rdg. 80
Regular	8931	5403	1057	2371	4861
Migrant	1182	816	154	212	768
Special Education	247	156	21	70	135
TOTAL	10260*	6375*	1232	2653	5764

**Two were not classified.*

The migrant population was not evenly distributed across all districts. Some do not participate in the program; therefore, a student might actually be a migrant and not be officially designated as one. The separation, however, assured that those classified as migrant had been officially processed as such, even though it no doubt left many migrants within the "regular" category.

Development Associates had feared that early migration would severely reduce the number of migrant achievement scores. While the losses were quite substantial in 1978 and 1979, the 1980 scores for migrants were proportionately about the same as the other two groups.

The numbers for both regular and migrant students were large enough so that almost any analysis could be performed and they were thought to be roughly the proportion to be found among the populations in this study. The number of special education students was small and some restrictions were therefore inherent in the statistical procedures that could be applied.

The characteristics of the regular and special education students showed a wide distribution across languages, ethnicity, and socioeconomic status. No unusual concentrations were found within any one group. The migrants, however, were almost all Mexican American, spoke Spanish as their first language, and as previously mentioned, were mostly within the low socioeconomic group.

The Programs*

As noted previously, Development Associates began the study of the instructional programs by collecting the descriptors of these programs from the district officials, then refining those through the school officials' information on their application within their schools. Information was then gathered from teachers as to the specific implementation within their classrooms. Through preliminary observations in the classes, it was found that some of the descriptors indicated the way the pupils were selected for placement, the way the curriculum was organized, or how the teaching assignments were made, and did not, per se, specify the kind of instruction that was taking place.

Development Associates therefore maintained two sets of descriptors throughout the investigation: a set called "declared programs" and another termed "observed programs." The two sets only partially coincided. The declared programs that offered insights into the organization of instruction are described herein as general information on services to limited and non-English speaking pupils. Most of them, however, presented such wide variations of instruction within them that they could not be utilized as variables for analysis. Those few that accurately portrayed the instructional strategies (e.g., English/primary language bilingual, English as a second language, individual learning plan, regular English, and separate primary language class) were repeated within the observed program categories. Variations within two of them (English/primary language bilingual and individual learning plan) were controlled to determine whether what appeared to be substantial differences affected pupil learning.

Organizational Program Descriptors

By and large, district and school administrators demonstrated concerns for pupil learning; they also attempted various strategies for achieving that learning. They frequently faced difficulties

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**Development Associates was not charged with conducting a "compliance with regulations" evaluation but rather a study into the services provided. The actual incidence of non-compliance was so rare (whether through intention, inability, or ignorance) that in any event it would have been nearly unimportant to the teaching/learning processes. Further, Development Associates, through its task of trying to determine the best possible services for the pupils, will not concern itself with whether or not the conclusions or the ensuing recommendations are "in compliance," but instead assume that policy makers have the power to change rules that are counterproductive to learning.*

in the implementation of the strategies, either because of changing pupil populations, restricted funding, lack of instructors with the appropriate training, and/or parental decisions about how their youngsters were to be educated. Thus, across the three years, some of the organizational and instructional strategies were modified or even abandoned in a few cases. These descriptions of the strategies, then, represented some attempts to deal with the difficulties. Three kinds of information, when appropriate, will be presented: a general description of the strategy, unusually well implemented examples, and in some cases deficient implementation examples.

Language Skills Continua: After a detailed analysis of certain language tasks, each specific skill was isolated and broken into its logical component parts, sometimes described as steps. Developmental activities had usually then been provided so that through study and practice, the students could experience mastery of the skill or step before progressing to the next one in the sequence. Materials may have been developed through which the study and practice take place or already existing materials may have been referenced and keyed so they could be incorporated into the activities. Many commercial and some agency developed sets have been organized via skills; many have been available for decades, others are quite recent in origin. Sets in English, Spanish, Vietnamese, and Tagalog were observed during the research.

Two types of language skills continuum utilization were found in the classrooms. The first was that the materials had been selected for and organized around the skills continuum sequence. It thus had been the guide to the organization of the curriculum. The second was the utilization of commercially, agency, or locally developed language skills continuum materials as a supplement to the regular language instruction program. This was the more common and indeed almost every classroom had one or more sets of this type available. Children were engaged in a general language development program; during a part of a period or periods they individually or in small groups did a pretest, did the study/practice activities, and completed the post test. The post test was then checked and if passed, entered into the children's records, and they could proceed to the next. Straight pencil and paper activities and some multimedia combinations were observed in use. Although a few classrooms were said to be organized as a straight "language skills continuum" instructional program, none was observed to be so in practice; they were always supplemental.

Immersion: This strategy was generally specified for pupils who did not speak English and was usually employed for a few to several months so that enough English was acquired to allow the child to be moved into another program. It was characterized by the almost constant modeling of the language development skills by the instructors and the instantly and frequently repeated practice by the pupils. In the earliest stages, concrete objects and pictures were used as the departure point, the English word was supplied and practiced. Variations in number, case, and gender were introduced and practiced. The written words were also introduced, carefully identified with the object/picture and with the oral/aural label, and practiced.

Although the first year three districts stated they had immersion programs somewhere in the system, by the second year they eliminated them from their declared offerings. And Development Associates did not find any specific immersion programs in use in the classrooms. It did, however, find many activities often associated with immersion employed part of the time. These were frequently seen in the recent arrival centers, in the "basic" English classes, and in several of the English as a second language programs. Only English immersion activities were observed.

Team Teaching: This strategy is, of course, a way of utilizing the instructor resources and does not in and of itself necessarily imply a teaching/learning activity. The schools described two conditions under which it was employed. At times, a school did not have two bilingual teachers when two were needed. If it had one that it considered well versed in teaching the English component and another the primary language component, each was assigned a room and then they switched during a part or parts of the day. The second condition was when a school had a teacher that had been specifically trained to teach English as a second language but more than one classroom needed that instruction. Arrangements were then made to "switch" rooms for a part of the day.

Team teaching stemming from both conditions was observed in the sample classrooms; 160 pupils were enrolled within these arrangements for fourth, fifth, and sixth grades. The teachers taught different subjects, however, and utilized very different instructional methodologies. Nearly the only common element, then, was the team teaching arrangement, and only preliminary analyses were performed using it as a variable. Nevertheless, it offered an organizational strategy that more schools should at least consider, since it allowed for a better allocation of teaching resources when those were limited. It should be noted, however, that most of the teachers were not very enthusiastic about team teaching and expressed hope that they could "return to their self contained rooms" in the future.

Although no district designated it as team teaching, one other example of teaming was evident in many classrooms - a teacher and an aide. In two cases the aides had been intensively trained in English as a second language practices. For those classrooms the teacher conducted the regular instructional activities and the aides carried out the specialized ESL work with small groups. The second type was much more common, the teacher conducted most of the English activities and the aide taught the primary language work. In most of these latter instances, however, little evidence of true teaming was seen. The aides had a set of materials and used them with groups of students at various times during the day. There were enormous differences in the ability of the aides in the languages and in teaching the languages; some were excellent and some very "primitive."

Two special cases merit attention. In one of these, a well educated, fully literate Panjabi aide was teamed with a teacher who spoke some Panjabi but could not conduct the technical instruction in it. The teacher and aide worked closely together in the development of the activities, their conduct, and their evaluation; the students had the advantage of excellence of language and instruction. In the other, a district was inaugurating a Pit River language program. No teacher was available but two Pit River speakers with a great deal of knowledge and skill in the language were teamed as aides with a certificated bilingual (English/Spanish) teacher. The three worked out the lessons, the materials, and the activities together. The aides then taught the classes. The teacher was not only present in the classes to assist the aides as needed, but was also learning the language through the classes. This latter gave the teacher a much better grasp of the progress of the instruction, enabling more objective help to be given to aides. This may be a viable alternative for the minor language programs. It requires the acquisition of a very literate, quite well educated aide, however, and then teaming that person with an excellent teacher for the greatest potential for success.

Recent Arrival Programs: Several districts in this study had experienced very heavy enrollments of non-English speaking pupils from one or more language groups in the last few years. In most of them, the classroom loads were already large. To have incorporated all the new students into the existing structure was said to be an "unconscionable" burden for the instruction. Two major types of response to the problem were found in the sample districts, special centers by language and special classes by language. The district circumstances appeared to dictate which was chosen.

One large district operated recent arrival centers for three language groups: Spanish, languages of China, and languages of the Philippines. New students from those languages were first screened to determine the level of their knowledge in English and the primary language. If the children were non-English speaking or severely limited in English, they might then be assigned to the appropriate center for six months to a year. The district was able to maintain a well trained, bilingual staff in each center and the children were instructed about half the day in the subjects in the primary language and the other half of the day was devoted to intensive English instruction. Frequent reassessments of the child's progress were made and when a functional level had been reached, the children were then transferred to a school with a program appropriate to their abilities and to their parents' desires: a regular English program, a specialized ESL class, or a bilingual program.

Another district concentrated its bilingual teachers in certain languages in a few schools and the newly arrived non-English speaking pupils were assigned to those schools. After assessment, the children were assigned to those classes that would best enable them to progress in the acquisition of subject matter (in a class taught in his primary language or in a bilingual class) while also taking special English development classes. These latter included both a beginning English program and an ESL program. Koreans in one junior high, for example, could be placed in algebra taught in English, taught in Korean, or algebra in combination with English as a second language. Some smaller districts offered alternative classes within their one or two junior and high schools, thus achieving some of the same advantages within more restrictive conditions.

Some complaints about the special classes were heard in several districts. During the satisfaction study, non-program teachers, some parents, and some community members averred that students were allowed to enroll in these classes for years, that they were not forced to progress into classes with greater English input. An examination of the records of some of the students in those classes did indeed show that some students had been in that type of program for three and more years, although they were relatively few within the total. There was some basis for the complaining in a few of the centers.

Development Associates dropped recent arrival programs as a unit of analysis for several reasons. One of the major ones was that in some of them, the students were there only a part of the year and then transferred elsewhere or to other configurations. Another was that within the classes there was no common methodology of instruction; nearly every conceivable variation could be observed. Further, when some of the classes were found to contain students that had been in the district for years, and thus were by no means recent arrivals, the term could not be applied with sufficient uniformity to maintain it as a variable.

Indian Education Programs: Native American assistance programs were operated in conjunction with other educational activities in two of the sample districts. In both, tutorial help was a principal vehicle for delivering the services. Community members, some paid and some volunteer, were incorporated into programs that gave extra attention to students, whether or not they were behind in their work. The tutoring was almost entirely one to one, used the student's regular classroom assignments as the basis for the assistance, and provided supplemental exercises to further increase the achievement. One of the programs assisted some pupils during school hours and in the regular school setting, conducted some of the work during special release classes, and gave some instruction on Indian history, art, and crafts. The other program's help was entirely after school hours but it, too, taught Native American cultures. A special feature of this second program was that working together with the school, it helped develop a Pit River language class, including collecting the materials for a teaching dictionary, helping organize the classes, and obtaining permission for the pupils to attend.

As would be expected from such an array of activities, there were several components within them that varied a great deal. The tutoring techniques were about the same across the programs. The cultures were taught quite differently by different instructors, however. And, of course, the language classes were conducted in ways appropriate to that instruction.

Because of these wide instructional differences, and because the same activities were observed elsewhere, the Indian Education programs, as such, were not kept as a variable for examination. Instead, the type of instructional practice performed was aggregated with those same practices elsewhere, giving a broader base for studying each particular type. The elimination of them as a variable, nevertheless, should in no way be interpreted as lessening their importance. Both were well thought of within their constituencies and had been instrumental in bringing some different Indian groups together for fruitful cooperation.

Resource Centers: Relatively few resource centers were in operation with a primary thrust toward the students of limited or non-English speaking ability. Generally, any student with some sort of learning problem could be assigned to go to a resource center for some portion of the day. Three types of help were observed in operation within these centers. One was individual tutoring, concentrating on that part of the students' work with which they were having difficulty. The second was when students went to the centers and received individual help in certain English language development skills. The center teachers laid out a remediation program for the children, and each time they attended study was conducted on those skills. In one center, the child also could be assisted with or in his primary language. The variations, then, were considerable, and as with some of the other programs, the pupils were reclassified according to the type of instruction that was given, abandoning "resource center" as a unit of analysis.

Departmentalized Programs: Since many junior and senior high school students were subjected to various kinds of instructional influence during each day, it was earlier projected that the combination would have to be studied separately. Certainly some multiple influences were in existence. However, it also became clear that schools had developed a pattern of instruction for the students that in many ways overrode the differences within the instructional day. Classes were sometimes taught bilingually, subjects were offered in different languages, primary languages were available, and differing configurations of English as a second language were organized. The students were subsequently reclassified according to the major language development program in which they were enrolled, rather than maintaining a multiple influences category of "departmentalized."

Observed Instructional Programs

Through actual observations and interviews in the classrooms, the students were associated with the instructional program type in which they were involved. The classification [illegible] individual student was critical since in nearly every room in the sample there were some students participating in one program and others participating in another. For example, one sample classroom contained 4 Tagalog speaking ILP students in regular English, 8 English speaking students in regular English, 3 Spanish speaking students in the bilingual program who also left for one hour each day for ESL, 17 Spanish speaking students in the bilingual program, and 2 English speakers in the bilingual program. Most kindergarten classrooms contained a single program, that is, all the students were enrolled in, say, the bilingual program. Some first grade rooms and many of the "specialist" program classes in the junior and senior high schools were also one single program. The vast majority, however, comprised two or more program groups.

The research was designed to examine the services provided to limited and non-English speaking pupils. As would be expected, then, most of the students in the sample were enrolled in a bilingual program (bilingual was restricted to those programs in which English and the primary language were utilized in the instruction). Almost 60% (Table 12) were in that configuration. The second largest group was those students with individual learning plans, about 20%. The other types of programs contained the remaining 20% of the pupils.

Table 12: Distribution of the Students by their 1980 Instructional Program Affiliation

Program Type	Number of Students			
	Total Sample		English Rdg 1980	
	(Subgroup)	Group	(Subgroup)	Group
Individual Learning Plans		2115		1456
ILP + ESL	646		493	
ILP + Pri. Lang. class	120		42	
ILP + Bil. (other)*	384		234	
ILP + Tutor	182		156	
ILP in Regular English	783		531	
Bilingual Program		6020		3271
BP with regular English	4822		2749	
BP with ESL	1198		522	
Mostly Primary Language		283		66
ESL only		367		174
Regular English		626		380
Reg. Eng. + Pri. Lang. Class		832		416
Totals**		10243		5763

**This group was students who spoke one language but were enrolled in a bilingual program that utilized another.*

***A few students could not be associated with an instructional program because they changed rooms.*

Individual Learning Plans:* Written individual learning plans had been prepared for almost all the limited and non-English speaking pupils in the sample schools. Those plans varied considerably, from some rather simplified indications of special assistance needed to very complex skills listings, coupled with notations of how the needs were to be addressed. Followup assessments, teacher comments, and notes on parent conferences were attached to some. Generally the plans were stored in the cumulative record folders and with copies in the bilingual coordinator offices. Almost all the plans followed the recommended State Department of Education format but some districts had developed unique forms for recording the information.

The ILP + ESL group was made up primarily of students whose parents had not allowed them to be enrolled in a bilingual program. A relatively high proportion of this group was non-English speaking and most of the others were severely limited in English. The students usually spent the majority of their day in a regular English program but were pulled out for one or more periods for structured, formal ESL programs. These latter were conducted variously by aides, teachers, and resource center teachers. Only rarely were these efforts carried out within the students' regular classrooms. Little primary language assistance was available to them except when an emergency demanded special intervention.

Students in the ILP + Tutor group received instruction in many forms. Often an aide in the room did the tutoring or an aide came to the room and tutored the children as a small group. Some went to resource rooms; a few went to a library, small office, or empty classroom where an aide worked with small groups, usually from more than one classroom. The amount of primary language assistance varied a great deal - from none at all to dual English and primary language explanations of the material being tutored. Too, while some tutors had express indications of what needed to be covered from the teacher of the pupils, others followed a more general format apparently set up between the aide and the bilingual coordinator.

ILP + Primary Language Class was an alternative set up where several children in the school spoke the same language but there were too few in each grade to institute a bilingual program or the school had no qualified teacher to conduct one. The children were enrolled in a regular English program classroom and then left that room three to five times per week to be instructed in a regular language arts program for the specific language. Therefore, the class was not a bilingual class, it was a primary language class. Within the sample, these were available in Spanish, Vietnamese, Korean, Cantonese, and Portuguese.

**Development Associates dropped the "bilingual" from BILP since the separation into the different types of individual learning plans made it unnecessary.*

ILP + Other Bilingual Program was a category that had not been anticipated in the original design. All of these students were limited or non-English speaking children, enrolled in a classroom in which a bilingual program (in a language other than the first language of these ILP students) was being conducted, and they were participating actively in that bilingual program. A very high percentage of these children was participating in that program because their parents wanted them to do so. Only occasionally did it appear that they were there by "accident." Most of these students were speakers of Cantonese, Tagalog, and Portuguese and enrolled in an English/Spanish bilingual program; speakers of other Philippine languages and enrolled in Tagalog/English; and speakers of other languages of China and participating in a Cantonese/English program. Other combinations were found, however, and almost invariably the parent had made the conscious choice to permit the student to learn another language.

ILP + Regular English was the largest group; again almost all of them were so enrolled because the parents would not allow them in the bilingual program or no bilingual program in their language was available. A relatively high proportion of these students was limited rather than non-English speaking.

In summary, then, the districts and schools have developed a wide array of assistance alternatives for the students with individual learning plans. Some of the types of assistance were dictated by parental decisions and some by what the school could make available. The amount of assistance tendered to the ILP students varied from apparently none beyond filling out the plan to some very sophisticated ESL, primary language instruction, and tutoring. The instructional practices described in a later section of this chapter, will unfortunately apply only to those students in the organized classroom instruction and to some who were in regular English rooms with more than five ILPs present. More than half had no observations on the kind of instruction they received.

Bilingual Programs: As noted previously, Development Associates restricted the use of this term to those programs that utilized English and a primary language within the daily instruction in the classroom, purely as a specification of the type of instruction. When children went to another classroom to study a primary language, that was, in a real sense, a kind of bilingual education. Its configuration was seen as potentially different, however, thus the specification of the separate categories.

Within bilingual programs, naturally, the utilization of the primary language differed enormously. Development Associates had intended to measure the proportion of primary language to English but during the field testing, it became obvious that such measurement would be very inexact since words were mixed within the sentences, rapid switching occurred, and aide/teacher combinations made precision impossible.

One type of primary language usage indication could be ascertained, however, from the delivery mode of the two languages: facilitation, preview/review, simultaneous/concurrent, alternate languages within the day, or alternate languages by day or unit. These, of course, were not always absolute but each teacher generally followed a delivery mode quite consistently.

Table 13: Distribution of the Students in the Bilingual Programs by the 1980 Delivery Modes

Delivery Mode	Total Sample	English Rdg. 1980
Facilitation	1813	728
Preview/Review	507	268
Simultaneous/Concurrent	1016	574
Alternate within Day	2122	1501
Alternate by Day/Unit	562	200
TOTALS	6020	3271

Facilitation, that mode in which the primary language is utilized to help the student understand the English materials (primary language is not taught per se), was used in about a fifth of the classrooms. Even when the teacher said the primary language was not taught, it was not unusual to observe some small amount of explanation and drill, especially on the oral usage of the language. Still, it remained a very minor part of the instructional delivery mode termed facilitation.

Preview/review tended to be quite formal in its presentation. The teacher would call the students' attention to the content of the next lesson, briefly summarize it and often give the specific vocabulary that would be needed, almost invariably in the primary language. The teacher then taught the lesson in English. At the end, the teacher again used the primary language to summarize the content used. The lessons were almost all on subject matter: mathematics, social studies, science; only rarely were they literature or some other aspect of language arts.

While theorists differ somewhat in their descriptions of the simultaneous and concurrent delivery modes (simultaneous is usually reserved for sentence by sentence switching and concurrent for longer sections of material), the practices in the sample California classrooms showed no absolute examples of either one. Instead, the teachers tended to use them both, depending in part on the complexity of the concept being explained. These teachers also usually demanded that the pupils answer in the different languages on different occasions, thus drawing them into the delivery mode.

One-third of all the bilingual program classrooms utilized the alternate languages within the day mode. In that process, mathematics, for example, was taught in English and then later in the day, repeated in Spanish. The next lesson might have been science, and often the languages were reversed - the initial lesson was taught in Spanish and later in English. It was often noted that the repeated lesson, in whichever language, would be somewhat shorter than the original. In some cases, the second lesson would also add new material that had not been presented earlier. Several teachers commented that after midyear, the students usually did not need a repetition of the entire lesson but a shorter version would suffice, thus allowing the class to move ahead in the subject matter.

Alternate languages by day or unit was more prevalent in the junior and senior high programs than in elementary. It was also observed that the students tended to be more English fluent; non-English speakers would, of course, have had a great deal of difficulty with such an arrangement. Several teachers using this mode commented that it gave them a greater control of the language development process in general - that students were thus forced into more complex concept development in each language. They also noted that it made vocabulary control somewhat difficult. The researchers observed some use of the opposite language in most of those classes in which this mode was used; it apparently was felt unnecessary to concentrate solely on one language at a time.

Calling attention again to Table 12, the bilingual programs were also separated into two groups according to whether they utilized a regular English arts approach or employed the more formal ESL activities. Only about a fourth of the programs have incorporated the latter into the regular classroom activities. It should also be pointed out that while some ESL was carried out with a great deal of expertise, other instructors used the ESL materials but had not been trained in ESL methods and were using the materials in a regular English format. Indeed, although one observer returned on three successive days, no child was heard to recite in one "ESL" classroom; almost all the work was silent and written. It should also be noted that the use of ESL was reported in greater amounts each of the three years of data collection. That is, it gained considerably in popularity during the period.

Bilingual programs, then, were found in the California sample to differ widely in how they were conducted - from what usually appeared to be very informal facilitation techniques to some very formal separate language arrangements with close controls on the language used, the content imparted, and vocabulary introduction. Similarly, the English portions of the bilingual programs had also undergone considerable change - and were vastly different within those observed - with some tendency toward incorporating the more formal ESL materials and methodologies into the system.

Mostly Primary Language: Of the 14 classroom programs classified in this category, all were in Spanish except one in Cantonese. Three were first grade classes, two second grade, and the rest were kindergarten. The instruction was, as the name implies, almost entirely in the primary language although in most of them the teacher stated that oral/aural English was practiced. In four cases, the observer was unable to monitor the English since after repeated rescheduling, no English instruction was given.

In the kindergarten classes, substantial oral/aural development occurred in the primary language, including reading readiness, and some small amount of actual reading was practiced. Number readiness, social studies (home and family), art, and music were taught. In those classes in which oral/aural English skills were introduced, these generally consisted of counting, days of the week, naming articles in the room, vocabulary and phrases, and some simple sentences. Conversational exchanges were carried on in some, with the teacher asking questions and the pupils supplying the answers.

In the first and second grades, the primary language lessons were similar to those in kindergarten but with more reading and writing incorporated. All five rooms had readers in the primary language, one had mathematics workbooks, and one had a social studies text. Much of the work was conducted with supplementary materials: activity sheets, phonics charts, word lists, and picture/word cards. The teachers frequently commented that the children were deficient in their primary language development although they appeared able to converse freely in that language, Art and music activities were conducted in all the rooms during the observations. The oral/aural English activities were similar to those described for the kindergarten rooms but with somewhat more complex structures. No English reading or writing was conducted and the teachers reported they would not be introduced that year.

ESL Only: Some schools have gone to the English as a second language delivery system for the limited and non-English speaking children. Those classified in this category did not have an ILP written but they were being assisted throgh varying intensities of English language development. Some of the students in this type of program were fluent English speakers but had been judged to need special help with their English arts. Some of these programs were conducted with great expertise and others were rather low intensity practice sessions only just barely different from what might be expected in a regular English room. In the junior and high school classes in this category, similar differences were noted - some of the best ESL seen anywhere was observed in the same school building in which the English practice was barely discernible. The combinations called ESL/Math, ESL/Science, and ESL/Art also varied widely. Some were just conducted in English with a few activities on vocabulary building while others carried out complex practice utilizing the subject matter being taught as the content for the practice.

Few of these teachers had received ESL training. Many of them demonstrated only a modicum of knowledge about how it should be carried on.

Regular English: The students in this program category were included mostly from the following observation designs:

- A bilingual program was conducted in the room but some students present did not participate in it; rather, they were being taught in a regular English program.
- In classrooms with five or more ILP students present, the entire class was observed and studied in order to observe how the services to the ILP students were provided; most of the students were fluent English speakers and only the ILPs were limited or non-English speaking.

Some students within this category, however, were limited or non-English speaking, had no ILP written, and were not participating in any bilingual or primary language program.

The class activities reflected the category name, the gamut of usual English instructional programs in reading, writing, mathematics, social studies, science, and others. Interestingly enough, there were about as many strong modeling activities by the teachers and repetitions by the students as there were in some of the ESL rooms and in the bilingual classes.

Regular English with Primary Language Class: The final program type was one in which most of the work was conducted as described in the regular English category. The exception was that sometime during the day, some of the students went elsewhere to study a primary language (often a second language for some of the students). A very high proportion of these students was fluent English speaking but the language class they attended was usually that of their first language. The primary language class was, in every case, conducted almost entirely in that primary language rather than bilingually. Classes in Spanish, Pit River, Vietnamese, Korean, Cantonese, and Portuguese were conducted under this category. The classes frequently contained some ILP students from several rooms as well as those students that were fluent English speaking.

Summarizing the observed instructional program materials, one of the most striking facts was the several combinations that were developed by the schools to teach the youngsters. Bilingual programs were the most frequent offering, followed by individual learning plan options. Regular English programs with a primary language instruction program were surprisingly strong and appeared to be gaining in popularity. ESL as the only assistance mode and instruction almost entirely in the primary language were fewer but the ESL category increased in the reportings across the three years. The classroom observations also showed enormous differences in the structural and intensity qualities of the instruction within each of the program categories; none could be characterized as delivering a uniform set of services to limited and non-English speaking pupils.

The Classes

The basic unit of instruction for the elementary pupils in the California study was the self contained classroom; no departmentalized arrangements were found for this level. In addition to their regular classroom instruction, some small groups were pulled out for various reasons: specialized ESL instruction, special education assistance, migrant orientation, and a few met elsewhere for primary language instruction or assistance. Individual students were sometimes pulled for help with speech, hearing, and other handicaps. Almost exactly half the elementary classrooms had a full time aide; another quarter received help from an aide for a half day.

The junior and senior high classes were all organized on a departmentalized basis and the vast majority met with one teacher for each period of the day, generally in different subject content groupings. Two period combinations with the same teacher existed in eight of the junior high schools and in three of the high schools. One high school had a three period combination organized on a bilingual education format. Only a fourth of the junior and high school classes received assistance from instructional aides but many teachers were given some help during each day, especially with the preparation and reproduction of materials. Pullouts from the secondary classes were rare since most students had a library, study, or activity period during which special assistance could be given.

The limited and non-English speaking students were served by a wide variety of offerings in the junior and senior high schools. Many of the classes were organized as bilingual rooms with bilingual teachers using different delivery modes in imparting the subject matter and language development activities. While some utilized published texts in the primary language (Spanish and Vietnamese), the majority supplemented the English texts with explanations and work sheets in the primary language, most often produced by the local teachers. A few rooms had published supplemental materials consisting of pamphlets and workbooks, usually acquired from materials development and dissemination centers.

Class Size

The regular self contained elementary classrooms varied in pupil enrollment from 24 to 37 within the sample group in 1979-1980. Kindergarten rooms were generally 28 or fewer in size; first, second, and third grade rooms ranged from 24 to 33; fourth through sixth grade rooms generally had the highest enrollment, averaging 33 in the sample. These enrollments were almost invariably higher than those reported in the 1978-1979 survey when no elementary room exceeded 31.

The junior and senior high classes varied a great deal in size, with the nature of the course at least a partial determinant. A creative Spanish writing course, for example, had only 18 enrolled while most of the others in the building contained more than 30 pupils. Similarly, fourth year Spanish, Korean language arts, second year biology, Japanese language arts, and algebra taught in Spanish were all smaller than the average for the school. Three secondary schools offered special beginning English classes for non-English speakers and these, too, were of smaller enrollment although one had grown rapidly during the month prior to the monitoring. Some extremely large classes were also included among those studied: an ESL class in a junior high had 55 students in it, an ESL-art class had 45, a bilingual Cantonese/English algebra room had 42.

Educational theorists and practitioners would judge the enrollment in most of the study classes to be considerably larger than optimum for best learning by fluent English speaking pupils. And, of course, the greater majority of the students in these rooms was limited or non-English speaking. The teachers faced formidable tasks in achieving teaching/learning with so many pupils in the room. It must be pointed out, however, that except for a few special cases, the enrollments in the classes for the limited and non-English speaking students were not larger than the others in the school. The districts were simply faced with many pupils and few teachers. For whatever reason, the enrollments were generally too high for the best educational circumstances.

Language Composition

According to state and federal regulations, each bilingual classroom is expected to contain enough fluent English speaking pupils to provide adequate peer modeling. Except for a few specialized situations, that was achieved in the sample classrooms, ranging from 20 to 65%. The fluent English speakers came from nearly every possible ethnic group, but in most cases a high proportion of them came from the primary language group of the bilingual instruction. This occurred partly because they were often the only group available and partly because a good many of them were there expressly to learn the language being taught. Some members of other ethnic groups were also there for that reason; the parents had decided to enroll their children in the bilingual room so the child could learn the language. In some rooms, the fluent English speakers were present in the room but were not enrolled in the bilingual program; they were pursuing a regular English language curriculum within the room in which a bilingual curriculum was being followed.

There were many exceptions to these generalities, however, and some of them require attention. In certain of the schools, a limited or non-English speaking child was assigned to a "bilingual" classroom, regardless of whether he spoke the program language or not. Usually only one or two of these had been assigned to the room, but at times there were more non-program language children present than children from the program language. A few examples will illustrate the potential problem: one room had 8 Japanese speakers, 6 Spanish, 1 Tagalog, 1 Laotian, 1 Panjabi, 1 Hindi, 11 English - and the teacher spoke Spanish and English; one room of 36 contained 11 different languages; one teacher who spoke English and some Cantonese was expected to teach 33 pupils from 8 languages of China, 2 Vietnamese, and 1 Mnong speaker.

The principals and coordinators usually commented that the children were assigned to "bilingual" classes because the teacher knew how to deal with them. That probably was true in some cases but certainly not in all. During an observation in the seventh month of the school year, one teacher reported that she had "a Chinese ILP" in the room when in fact the child was Burmese. Tagalog and Portuguese speakers were quite systematically assigned to Spanish/English bilingual program rooms. The teachers could, of course, handle the non-program language children individually and in most cases they did, placing an enormous teaching burden on that teacher. In other cases, the children were there, the instruction was in two languages, and the children appeared to be expected to be profiting from the instruction. They were, in fact, in trilingual education.

It must also be emphasized that some exceptional cases of trilingual and even multilingual instruction were observed among the sample classes. One junior high teacher had a two period class in general mathematics for 41 pupils almost equally divided among non-English speaking, recently arrived, Laotians, Cambodians, Vietnamese, and Cantonese. He systematically taught each of the groups a unit of the lesson in their own language, including working out problems on the blackboard, and then he re-taught the lesson in English. An unusually capable elementary teacher taught about half her class in Cantonese, took the others next and taught them in Spanish, and finally repeated the unit in English. An ESL teacher taught his class in English but used three other languages to facilitate comprehension of how to do the exercises.

The schools that receive large numbers of recently arrived speakers of several languages have a very difficult task. Some of them were very resourceful in finding instructors, creating special groups, making good use of aides and parent volunteers, and otherwise providing reasonable opportunities for the children. Too, some children and their parents want the students to learn more than one language. Still, assigning students to bilingual program rooms - because they don't speak English, or because they come from a certain geographic area, may often be counter productive. And that will always be true when the teacher is unsympathetic or insensitive to the individual or his group, such as the previously mentioned Burmese whose teacher, after seven months, still called the boy a "Chinaman." Each case should be investigated and the best possible arrangement for the student, within the possibilities of the school, should be made.

Finally, there were three rather common groupings that have some justification so long as their nature is known and they have parental approval. One of these groupings was children from the 11 different languages from three language families of China found among the sample children in this study. The languages are not mutually intelligible; the closest are related in about the same way as Spanish and Italian, while some are as far apart as, say, English and Russian. A high proportion of the children was classified in the records as speaking "Chinese" or Cantonese. All the programs within this study were Cantonese, although some Mandarin programs exist in the state. Cantonese has become the basic language of the Chinese in California, thus it is reasonable to offer that program. Many teachers complained, however, that they were "running a trilingual program," teaching speakers of several languages Cantonese and English when they knew neither one. The choice of Cantonese as the language of the program can be justified but the difficulties faced by the teachers and students need to be recognized and appropriate assistance offered them when that choice is made.

Many languages are spoken in the Philippines. Most adults and the children who have gone to school in the Philippines speak Tagalog as well as their native language. Very young children, however, often do not speak Tagalog because it is not the home language. In the present study, the Philippine children spoke Ilocano, Tagalog, Visayan, Pampango, Pangasinan, Bicol, Chabacano, Ibanag, Hiligaynon, and one language from India, Gujariti. Most Philippine parents want their children to learn Tagalog, thus the choice for a program is warranted. Again, however, it should be done with knowledge and forethought, not occurring out of accidents or ignorance.

The most difficult case encountered, and present in almost every Vietnamese program in the study, is that of the Indochinese. They come from very different nations, languages, and cultures. In the California study, the children spoke Vietnamese, Thai, Cambodian, Laotian, Burmese, Mnong, Cantonese, Hano, Toishan, and Suchow. True, some of the children spoke Vietnamese in addition to their own first language - or at least some small amount of it. The major problem was that they were classified as Vietnamese speakers and were, for the most part, indiscriminately placed in Vietnamese programs. The teachers and some of the children experienced a great deal of difficulty. Indochinese refugee monies were sorely needed by those schools receiving large numbers from that area. Investigation into the best ways to serve the children may make those funds more useful than "bunching" them into a Vietnamese language program.

Performance Composition

One concern of bilingual program monitors has been that the fluent English speaking component in the classrooms not be comprised chiefly of slow learners. While it was outside the purview of this study to make absolute determinations of their composition, there was no evidence that such was the case. First, except for a single art class in a junior high, there were never more than two special education pupils in a sample classroom and in most of them there was none. Second, an examination of the distribution of the T-scores (presented in a later chapter) showed about the same range as would be expected in any other group, with perhaps a slightly greater number of high scoring pupils than from the lower end. A part of this latter trend occurred, apparently, from parents of fluent English speaking children choosing to have their child in a bilingual room so he could learn the second language. In any event, general scanning procedures did not show an unusual number of slow learning fluent English speaking pupils in the sample classrooms.

Few educational theorists or practitioners advocate ability grouping as a way of arranging class composition. Most favor a variety of performance levels so that those more advanced can stimulate the others to greater efforts. It became obvious from the bilingual program teacher comments, however, that bilingual programs often suffer from the opposite effect - too many performance levels. In monolingual rooms, it is common for teachers to have the children organized into three reading groups and perhaps two math groups. Under even the best conditions, bilingual teachers will have additional reading groups in the primary language. When a well trained instructional aide is available to help, the groups can be managed with reasonable efficiency. When aides are not available, or when they cannot teach a reading group adequately, the multiple instructional needs in the room become a detriment to the overall teaching/learning process.

The problems of the multilanguage rooms become obvious. Extremely wide variations in English reading were observed in some of the classrooms, ranging from those who read no English at all to some reading far above grade level. One teacher reported seven English reading levels in her third grade class and that appeared to be the case. Additionally, there were three Spanish reading groups and five children that spoke neither Spanish nor English. Since there were three other third grade rooms in the school, it would appear possible to have made some performance separations that would have increased the learning opportunities. The problem is not rare and was cited by a good many ex-bilingual teachers as the reason for switching to monolingual English instruction. Some adjustments appeared possible in most of the sample schools and they should have been considered as ways to improve the conditions of both students and teachers.

The Instruction

An important part of the research into the California services to limited and non-English speaking pupils was the identification of those instructional practices that differentiate among different pupil learning rates as measured by standardized achievement tests. A classroom observation instrument was developed that incorporated some clocked and counted elements, typified in the Stallings (16) studies, and descriptions of the events, similar to some of the grounded theory recommendations of Glaser & Strauss (10). After a draft version, with its specifications for completion, had been field tested and revised, it was submitted to the Advisory Committee and Consultants. When their suggestions had been incorporated, further field testing was carried out, utilizing Cantonese, Spanish, and Portuguese bilingual classes, monolingual English classes, and English as a second language instruction. The final version was then prepared, the instructions modified, and the research team trained, first through videotaped classes, then in the field.* Rater consistency was taken to a very high level, approaching 100%, and the inter-rater reliability on the videotaped classes was from 87 to 94%, depending on the item.

Most of the items selected for measurement were those that research in monolingual or bilingual education had proved to differentiate importantly among learning rates. Since few investigations had examined specific instructional practices in bilingual education, some items were added that theory literature on that subject had averred as important to the process.

Only experienced bilingual and English as a second language teachers, fully literate in English and the appropriate primary language, were utilized as observers. None was used in a district in which there were employee relationships. Half day observation periods were used for the elementary classrooms and from one to two periods for secondary classes. Observations were repeated when unusual events or circumstances appeared to violate the normal work activities or when the teacher stated that the observed period had not represented a "normal" set of instruction. Some supplemental observations were conducted when some portion of the major instruction was not viewed; in four cases, observers had to return three times to try to capture some element of the teaching.

All the observations were scheduled and conducted at the expected time except for unplanned school events that interrupted the regular schedule. Obviously, this allowed the teacher time to prepare for the observation and thus some bias was introduced into the data. Most teachers appeared to "conduct business as usual," although often the first portion of the observation period would be somewhat stilted or nervousness was manifested. By the second ten minute period, however, the general pressures of teaching 30 or more youngsters had taken over and the instruction appeared to be about what would be expected in most circumstances.

Observations were conducted on 274 separate classes. Bilingual instruction with English and Spanish, Portuguese, Vietnamese, Cantonese, Korean, Panjabi, Tagalog, Japanese, and Armenian were included. Primary language classes (not bilingual within themselves) in Spanish, Portuguese, Vietnamese, Cantonese, Korean, and Pit River were in the sample. Monolingual English and English as

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Complete details on development, the instrument, and the instructions are available in Interim Report V and in Volume III of this final report.

a second language classes were also monitored. In addition, subject matter classes (mathematics, science, health, art, and home economics) taught bilingually and in Spanish, Portuguese, Vietnamese, Cantonese, and ESL, were utilized in the junior and high schools since they made up important segments of the total services to limited and non-English speaking children. Three trilingual classes and one taught in five languages were encompassed in the total offerings in the sample. Only six classes could not be observed; one teacher refused, four were ill and substitutes were used for extended periods, and one was inadvertently missed.

Although the classrooms were chosen very carefully to represent the full range of services to limited and non-English speaking pupils and to comprise the different organizational and instructional practices, some of the expected elements did not appear. In two, no English instruction could be observed despite repeat monitoring; in three, no primary language instruction could be found. Four of the classes that were labeled ESL were, in fact, regular English instruction. In several, classified as full bilingual, only facilitation use was made of the primary language rather than instruction in that language. The appropriate changes were made in the codings for each class so that the data utilized in this study were observed rather than stated types of programs. Finally, as mentioned in an earlier context, two approaches that were said to be in use did not appear as the major thrust in any classroom: language skills continuum curricula and immersion.

Direction of Instruction

Research has frequently, though not always consistently, found differences in learning rates according to the number of pupils addressed in the instruction. Individualized, small group, and large group/whole class directions are usually recorded. In this study, combinations of these were also recorded, especially in the self contained elementary classrooms as teachers moved from one delivery mode or subject to another. Actual time devoted to each direction was recorded and the final classification depended upon the entire set of observation periods.

The teachers in the study sample used a wide variety of possible groupings for the instruction. A high proportion of those using only small groups as the direction of instruction were elementary; similarly, most of those using large groups/whole class were secondary. The remaining, individualized and the combinations of direction, were spread across elementary, junior, and senior classes. No clearcut grouping pattern could be said to have been characteristic of bilingual education or English as a second language.

Table 14 displays the distribution of the students according to the directions of instruction. Except for individualized, they were remarkably uniform. The teachers had chosen a delivery mode that satisfied their approaches to the instruction.

Table 14: Distribution of the Sample Students by the 1980 Direction of Instruction

Grouping	Number of Students	
	Total Sample	Eng. Rdg. 1980
Individualized	527	257
Small Group	1897	963
Large Group	1654	909
Individualized/Small Group	1371	861
Individualized/Large Group	1449	628
Small Group/Large Group	1273	627
Individualized/Small/Large Group	901	636
TOTALS	9072*	4881*

**The remaining students could not be associated with direction of instruction.*

Instructor/Pupil Interaction

The amount of instructor (teacher and aide when both were present) interaction with the pupils has generally been found to affect learning rates. In many of the earlier studies, the direction of the interaction (positive or negative feedback) was sometimes significant. In the much quoted Stallings (16) Follow Through research and in many other recent cases, only the amount of interaction has been shown to make a difference. The measurement in the Development Associates study was restricted to the amount of interaction; no attempt was made to classify it as positive or negative. Both verbal and visual cues were counted as interaction in a two stage calculation utilizing both the number of cues and the number of students involved. This latter was necessary since the amount of interaction was not even across the members of the classes. The results were then aggregated into three groupings: low (0-49%), medium (50-79%), and high (80% and above).

Much of the literature describing how to teach limited and non-English speaking students stresses that a high amount of interaction is necessary. The interaction is frequently detailed as modeling followed by practice followed by feedback. The instructors in this study were by no means applying that principle. The observed interaction ranged from near zero (an observer returned three times to one English as a second language class and never heard pupil recitation during the combined five hours of monitoring) to extremely high levels. At the highest levels of interaction, the pupils and the teachers were mostly utilizing verbal exchanges, achieving an enormous amount of modeling-practice-feedback. Interestingly, too, at the highest level, the interaction continued across the different subjects studied; the amount of interaction was just about as great for mathematics as for reading.

Table 15: Distribution of the Sample Students by Level of 1980 Instructor/Pupil Interaction

Level of Interaction	Number of Students Total Sample	 Eng. Rdg. 1980
Low	1565	750
Medium	3860	2205
High	3547	1867
TOTALS	8972*	4822*

** The remaining students could not be associated with a level of instructor/pupil interaction.*

Very high levels of interaction, especially verbal, are a prescribed part of formal English as a second language instruction. That could not be said to be a universal characteristic of ESL classes in this study. Many used silent reading, pencil and paper exercises, and work with individual pupils far more than they concentrated on the practice aspects with large numbers of pupils. Actually, high interaction was just as evident among the bilingual classes,where practice often moved at a rapid pace and from language to language. Even in the monolingual English classes, where only a few limited and non-English speaking ILP students were present, high intensity interaction was often employed as a technique by the teacher.

Structure of the Language Presentations

Writers on teaching language, whether dealing with bilingual, foreign, or English as a second language instruction, have consistently emphasized the need for planned, structured presentations. All of the models investigated in the Stallings (16) study, the Southwest Educational Development Laboratory (13) procedures, the recent Cohen (8) report, and most formal ESL arrangements, typified by the East Texas State University (9) program, insist on logical progressions with the vocabulary and syntax clearly presented. Structured presentations are contrasted with casual incorporation of the material to be taught in most descriptions.

The Development Associates procedures required counts of the structured versus casual utilizations of language within the presentations. Out of these counts, a percentage of structured utilization in relation to the casual were calculated. Finally, through the computer procedures, these were aggregated into low, medium, and high categories of the structure.

Table 16: Distribution of the Sample Students by the Structure of the Language Presentations in their 1980 Classes

Level of Language Structure	Number of Students Total Sample	 Eng. Rdg. 1980
Low	1149	582
Medium	2999	2205
High	4790	2403
TOTALS	8938*	5190*

**The remaining students could not be associated with a category of language structure.*

The utilization of structured language presentations within the sample classrooms was not a general characteristic of the instruction. While the vast majority of the students within the sample was in classes with highly structured language, many others were in rooms with only a medium structure and a sixth was being instructed in classes in which the language presentations were almost entirely casual. Both bilingual and English as a second language classes presented the complete range of language structure. The primary language classes, however, were all calculated in the high range of structured instruction.

During the field testing of the instruments and the accompanying procedures, it became obvious that there was a second element involved - whether the teacher habitually mixed the two languages in the same sentence or whether the languages were kept discrete. It could also be seen that this factor was not necessarily tied to structure for some very structured teachers mixed languages and some did not. In the final instrument, the two factors were kept separate and measured independently. The criteria for mixing languages excluded instances of the use of synonyms in the other language, the inclusion of one or two words in explanation, or short phrases used in reiteration. Similarly, occasional mixed language sentences were ignored - the item was marked "yes" if the teacher frequently used sentences in which words from the two languages were combined to complete the sentence.

More than a fourth of the teachers habitually mixed the two program languages in the same sentence. The languages included English, of course, and the mixing was associated with some classes using Spanish, Tagalog, and Cantonese. No mixing occurred in the primary language classes nor in the regular, monolingual English instruction. Mixing did occur in both the bilingual and in the English as a second language classes in about the same proportion. The practice was far more widespread than the program descriptions had indicated.

Table 17: Distribution of the Sample Students according to Whether Language Mixing Occurred in their 1980 Classes

Mixed Languages	Number of Students	
	Total Sample	Eng. Rdg. 1980
No	6196	3248
Yes	2201	1220
TOTALS	8397*	4468*

**Some students could not be associated with whether or not the teachers mixed the program languages in the classes.*

Instructor Language Proficiency

Without exception, both descriptive writings about and instructions for the formation of teachers emphasize the necessity for a high degree of fluency in the primary language. A frequent complaint from State Department of Education consultants, language program coordinators, and professors in institutions of higher education was that insufficient progress has been made in primary language fluency. Although very much in the minority, some also complained about the level of literacy in the primary language.

The measurement of fluency has received a great deal of attention. The US State Department, Peace Corps, college entrance boards, and many institutions of higher education have produced various examinations for fluency in many languages. Formal examinations, per se, were impossible for the Development Associates study. In lieu of such measurement, the selection of the observers was critical; only those that both spoke fluently and those that were absolutely literate in the languages were used for this work. In fact, complete mastery of the language was demanded. Additionally, the measurements themselves were formalized and exact definitions were formulated for each of the proficiency categories. Further, any reduction in the proficiency rates had to be accompanied by substantial explanations of the deficiencies and errors. Minor slips, whether verbal or in writing, were ignored in the calculations. Accents that did not seriously deter comprehension were not counted although they were recorded

All the teachers and the aides involved in the instruction of Armenian, Portuguese, Panjabi, Korean, Japanese, and Pit River were judged to be highly fluent and literate in their languages. Two Vietnamese speaking aides were found to be deficient in the literacy skills although their verbal abilities were solid; no Vietnamese teacher was rated as deficient. One teacher of Tagalog and three of Cantonese were judged in what might be termed the "fair" range of fluency. Their verbal abilities were generally acceptable but they made syntactical errors, used some inappropriate vocabulary, and/or did not demonstrate command of the written forms of the languages. No aides in these languages committed other than minor infractions.

The greatest differences were found among both the teachers and the aides expected to utilize Spanish. Three teachers were described in terms that approximated "primitive" for their use of the language. Although generally more errors were noted in the verbal use of Spanish, the three also exhibited serious deficiencies in the written use of the language. Eighteen teachers, ranging from fairly fluent to very fluent, committed frequent and generally serious errors in written Spanish. A common case among these was to use no diacritical marks or to place the accents on the wrong syllable. Spelling errors were not uncommon. This group was about evenly divided between those who spoke Spanish as their first language and half that had acquired it as their second. Most of the teachers, however, spoke and wrote excellent Spanish. Their pronunciation was good or better, they utilized a wide vocabulary, and the construction of their sentences was correct. There was less variation in the Spanish speaking ability of the aides; none was judged to have more than minor problems. Their literacy skills, however, were another matter. Notations of spelling and accent errors were frequent.

Although seldom mentioned in the literature, some complaints from language program coordinators and professors in universities had been registered about the quality of the English of some bilingual teachers. The measurement for this study, carried out as for the primary languages, showed substantial differences among both the teachers and the aides, not only in the bilingual programs but also in those for English as a second language. Nearly one-fourth of the teachers in these two programs exhibited less than fluent and literate use of English. One ESL teacher was so deficient in English that neither of two observers could follow what was being said, even after more than an hour of monitoring had been conducted. Six aides were in that same category and two of them admitted that they spoke no English. Most of the cases, of course, were considerably less serious than those examples. Nevertheless, the quality of the English fluency and literacy was at least a potential problem in many of the classes.

Language Modeling Activities

All of the treatises on language instruction place great emphasis on the number, as well as the quality, of the modeling activities. That includes materials on the regular, monolingual English instruction as well as bilingual and English as a second language. Foreign language instruction literature is also replete with recommendations for high modeling activity. In the present study, the field tests showed considerable difficulty in a combined measurement of oral/aural, reading, and writing modeling, and the final version of the instrument called for separate counts for them. Originally, quality of the activity was also to be examined but the wide variety of the degree of modeling called for in different circumstances made this component too subjective for accurate measurement. In the final procedures, only the number of modeling activities was maintained.

The number of oral/aural modeling activities ranged from absolute zero to nearly one every minute of observed instruction time. The numbers were greater for the English instruction than for that in the primary language in almost every instance. Despite the wide range in both languages, the mean number of oral/aural modeling presentations was not very high. Interviews with the teachers gave indications that the frequency of oral modeling was substantially less by the time the observations were conducted, middle to late spring, than they had been in the fall. The teachers reported that they had been able to move from a very strong concentration on oral/aural practice to more integrated approaches involving reading and writing.

Reading and writing activities were circumscribed by the approaches utilized in the programs. Those in which no primary language was taught, and in the majority of those in which facilitation was the mode, were excluded from the measurement. Similarly, in those few classes in which no English was taught and in which the sole activity was primary language instruction, no English reading or writing counts were made. Few kindergarten programs included reading or writing in their work.

The observers exerted every effort necessary to capture the reading activities in the sample classes. When little or none was exhibited during the regularly scheduled monitoring, a schedule was set up with the teachers so the observers could return at the appointed time and capture the reading instruction. About a fourth of the sample pupils were enrolled in classes in which a high amount of reading was present. Many kinds of reading activities were noted: silent, individual, and group reading; reading from word lists, flash cards, materials on the board, worksheets, and texts, and combinations of these. In these multiple reading activity classes, "finding" reading was no problem - it took place almost constantly. Several teachers volunteered that they "taught reading in every subject." The bilingual teachers in these high activity reading classes concentrated just about as much on reading in the primary language. That is, if teachers conducted many reading activities during the English portion of the observations, they were also frequent during the primary language sessions.

More than half the students was enrolled in classes in which a medium amount of reading activity took place. In these rooms, the activities tended to exhibit less variety: individuals read aloud, silent reading took place, or the major emphasis was on vocabulary cards or lists. A text or work sheet was often the only reading vehicle utilized. Again, when these characteristics were evidenced, they tended to be about the same in English and the primary language. Some teachers appeared to concentrate on one or two types of activity regardless of the language in which the reading was taking place.

Despite repeated returns and at scheduled times, about a fifth of the classes was found to contain no reading activities or it was confined to teacher reading of instructions while the students followed silently. In a few cases, some of these teachers made some efforts to "get pupils to read" but their skills were minimal and little of consequence was produced. Teachers gave different reasons for the low reading activities: "these pupils are so deficient in oral language that teaching them reading is futile," "this group is just so slow that they have been unable to learn how to read," and "we are not supposed to teach reading until later in the year (the observations were conducted in April and May). These reasons were given as frequently for Spanish reading (no other language was involved) as for English reading.

The observers also wrote descriptions of the reading activities or deficiencies/strengths noted in them. The earlier descriptions of the work in the high intensity reading rooms were typical of that reading concentration. The observers also concluded that some teachers "do not know how to teach Spanish reading." Items cited included "still teaching word attack skills after seven months," "the introduced vocabulary was so small that little or no reading could take place even though the children knew the words," and "the children fumbled through a few sentences with little evidence of having mastered any word attack skills or sight vocabulary." Unfortunately, these comments were not confined to first grade rooms; just about as many were registered for second and third grade classes.

A number of teachers, including some that were not within the deficiency group described in the previous paragraph, complained that they had not been taught how to teach Spanish reading. They noted that apparently they were expected to transfer teaching English reading skills activities to Spanish and the "transfer" was not satisfactory. In contrast, as an example, the Portuguese teachers and aides exhibited a very high skill in teaching Portuguese reading. They used the materials in the texts and in work sheets to demonstrate sets of words with similar properties, modeled and then demanded practice, and continually corrected deviations from the accepted pattern. Some institution or institutions had expended a great deal of effort to clearly and carefully teach how to teach Portuguese reading. And the teachers were very efficiently carrying out the tasks.

Writing activities in English and the primary languages were present in about the same range as reading, although the number for writing tended to be somewhat smaller and exhibit somewhat less variety. Some coincidence occurred between the amount of reading and writing activities but high intensity in one did not necessarily follow every case of high intensity in the other. A part of the difference was found in first grades and in beginning English as a second language classes - the teachers were more likely to emphasize reading in those than writing. Writing is considered to be a higher order language function involving mental oral/aural functions together with reading activities as well as the mechanical reproductions of the symbols. Thus, some teachers insisted that all three functions be practiced intensively while others relegated the writing to a somewhat lesser role.

Various publications reviewed prior to the observations had led researchers to expect fewer writing activities in the early grades for those programs such as Japanese, Korean, and the Chinese languages. Apparently the complexity of the writing systems causes some teachers to introduce the activities gradually in some schools. There was no evidence that this was the case in the sample classes. While some differences in the number of activities were found, they were no greater than for the writing exercises in the other languages.

Language Reading Sequence

A sharp division of opinion is apparent concerning that language in which pupils should be taught reading first - English or the primary language. Most advocates of primary language first cite the early Merino (15) writings and both sides quote different findings from the Lambert & Tucker (14) work in Canada. Much of the discussion, however, centers on examples of students that come to the United States after being taught to read well in their own language - and how easily and well they acquire English reading skills.

In the early design, Development Associates planned to separate those that had learned primary language reading in the United States from those that had learned it elsewhere. The field tests showed a great deal of variation in the level of reading skill that had been acquired in the primary language, regardless of where it had been learned. Consequently, the separation was abandoned and the categories were reduced to:

- studied one year or more of primary reading before English reading was introduced
- learned English reading first, including those that had learned only English reading
- learned reading in both languages at the same time

The problems of determining how much reading had been learned were beyond the scope of this research. Students were simply asked about the sequence and their replies accepted as indications that some skills had been acquired from "being taught" in whichever of the languages. One of the surprising findings from this survey was the number of recently arrived secondary students, especially from Indochina, who stated that they had not gone to school in their country. This also occurred with some from Mexico but the proportion was much smaller.

Table 18: Distribution of the Sample Students by Language Reading Sequence

Sequence	Number of Students	
	Total Sample	Eng. Rdg. 1980
Primary language first	4482	2668
English first	1119	1027
Both at the same time	1941	1227
TOTALS	7542*	4922*

**The remaining students were from kindergarten or the sequence in which they learned reading could not be ascertained.*

The large number that learned reading in the primary language first was due to two circumstances - the very large number of students in the sample classes that had had some education in another country before coming to the United States, and the substantial increases in the number of programs in this country that teach primary language reading first. Almost all the students in the last two categories, English first and both at the same time, had received all their education in the United States.

Most of the student distributions have shown about the same proportion in the several categories whether the entire sample or the subset, those with 1980 English reading scores, was examined. The data in Table 18, however, show a considerable difference between those learning primary reading first and those with 1980 English reading scores. Even when the 674 in that category with Spanish scores are added, it is evident that a high percentage of these students was not tested in either language.

Learning Time

Few research reports contain information on the amount of time students spent on learning the materials. Amidon & Flanders (1) compared several efficiency factors involved in learning time and found significant differences in achievement. The most carefully documented investigation into time spent in learning was that reported recently by Stallings (16) in her Follow Through studies; she, too, calculated significantly different achievement scores from increased instructional time.

The Development Associates procedures involved a three step documentation of time utilization. The number of students actually engaged in the teaching/learning activities was determined during each of ten-minute observation periods; those counts were contaminated, however, by pullouts of varying numbers of students to other sites that could not be monitored. Additionally, the quality of the engagement was considerably different among the students involved in certain activities. While these problems precluded statistical analyses of the engagement counts, they demonstrated wide differences in the number of students engaged in learning in the sample classes, varying from nearly the entire class nearly all the time to small groups working directly with the teacher and/or the aide.

The second step in the procedure involved the same counts but aggregated them by time spent in learning across the time segments into a measure termed class management, reported in the following section. Finally, clocked counts of learning time, without regard to the quality of the engagement, were kept on each classroom through the entire set of observation periods. These separated functional activities such as taking the roll, passing from one group to another, recess, bathroom and water drinking times, and other periods in which no instruction occurred due to disciplinary activities, non-teaching conversational sessions, and other interruptions. These were compared to clocked teaching/learning periods as a percentage of the total elapsed time. While these calculations ignored individuals or groups that were not engaged in whatever learning activity was taking place, they provided an overall measure of time utilization.

Table 19: Distribution of Sample Students by Observed Learning Time

Learning versus non-Learning Periods		Number of Students Total Sample	 Eng. Rdg. 1980
Low	(42-49%)	681	242
Medium	(53-74%)	2046	1213
High	(81-93%)	5857	3577
TOTALS		8584*	5032*

**The remaining students were not observed or otherwise could not be associated with the learning time calculations. The missing percentages did not occur in the sample.*

A surprising result of these calculations was the difference in the relative time children were kept at the teaching/learning tasks in comparison to the other activities, with extremes from 42% to 93%. That is, some children were exposed to more than twice the learning time of others. Very inefficient time utilization, below 50%, was not that common but still twenty-four classrooms were involved. These were about evenly divided between elementary and secondary, showing no particular pattern related to level. The vast majority of the students in this sample was in relatively time efficient classes, 80% to 93%. Their opportunities to learn were substantially greater than those provided for nearly a third of the total sample.

Inefficient time utilization classrooms at the elementary level was characterized by some distinctive patterns. Every event involved every student in the room: all the children stood in line to get a drink; every child stood in line while the members went one by one to the bathroom; when one child was being lectured about a discipline problem, all learning activity ceased; taking the roll occupied substantial time and nothing else happened; all learning activity ceased when a group moved from one activity to another; children were lined up far ahead of recess and when they returned, management events occupied several minutes of everyone's time. Efficient time utilization classrooms, on the other hand, showed very different arrangements: the children went one by one to get a drink and/or go to the bathroom while the others continued to study; children worked until recess time and returned afterward with little lost time; children were set to work and the roll was taken silently; children were disciplined individually and quietly with little disturbance for the rest of the students.

The activities that occupied secondary students' time were often quite different from those in elementary but substantial efficiency variations were also found. Passage from one class to another remained fairly constant but time for settling down after arrival at the class, roll taking, getting books out and finding the appropriate section, sharpening pencils, conversations unrelated to the learning, getting ready to leave at the end of the period, and disciplinary events were very different in different classrooms.

The discussions of problems with the principals and program coordinators produced only one item related to this factor: discipline. No mention of the utilization of time was made. If the interviewees were aware of the other differences observed in the classrooms, they did not bring them up.

Class Management

As mentioned in the previous section, important differences in the mobilization of the pupils to the learning tasks were observed, a factor termed class management. Discipline influenced the measure but it was only one component in the calculation. How many students were engaged in the learning activity was the main ingredient. Controls by time segment were kept according to students participating in work with the teacher and/or the aide, those doing seat work, and those doing no work during the period. Thus while some students lost time through overt untoward behaviors, many more in some rooms "sat quietly and did nothing," talked with their neighbors, and/or kept "busy" in unproductive activities.

The majority of the teachers managed to keep most students busy most of the time. They exhibited considerable control of the activities whether those were participatory or silent work at the desks and tables. Many others, however, appeared to exert control only over those under their immediate scrutiny; those assigned to other tasks could often escape work, especially if they kept quiet.

It was not uncommon to find a group of students in these rooms who, across two hours and more of observation, had largely managed to avoid work.

Some coincidence was expected between the class management rates and the utilization of time generally. This appeared to be true for the extremes - low and high rates for either factor. Considerable differences were observed with many in the medium group and with a few that "kept instruction going" at a fairly constant rate. That is, although some teachers assured that the group of students in the participatory activity were engaged in the work, many of the others, if they did not create a disturbance, were largely left to their own devices. Teachers managed the work habits of different groups of students in the rooms differently and with varying success.

Continuity of Instruction

Development Associates recognized from the inception of the research design that students are influenced by many conditions and events. Any investigation into differing achievement scores thus has some important limitations. Most of the program types observed during the base year, 1979-1980, then, and many of the instructional practices, were one point in time descriptors of the pupils' education. These were expected to influence students in the first two or three grades more than those that had been participating in different educational configurations in other years. Similarly, the researched factors would be expected to be of greater influence on pupils in self contained rooms than those that met with five or six different teachers during a departmentalized day. These varying conditions were known to exist but controls over them were impossible within the resource framework of this investigation.

An important assumption about the programs in the sample schools was that certain curricular approaches would be expected within each school and that pupils had probably proceeded through one of these across the years. That assumption was not well founded for most of the sample schools. First, if schools had a curriculum or curricula, they were rarely produced or even mentioned; they may have existed in some document somewhere but in most of the schools there was little evidence that a curriculum was influencing the instruction. Some important exceptions were found; some principals and language program coordinators described the curricula and showed how students progressed through them according to several sets of criteria.

The evidence in most of the schools was that regardless of any document or conception of a curriculum, each classroom could be said to have its own 'curriculum," some of them different from others to the extreme, and with no observable rationale for how pupils moved from one to another across the grades. As an example, it was not unusual to find first grade rooms in the same school being taught primary language only, English only, bilingually via facilitation, and bilingually with both English and the primary language being formally taught. The examinations of the second grade classroom compositions, however, often showed that the pupils apparently had moved in some random fashion from the four first grade rooms into the second grade classes, with little coincidence of the language instructional approach between the two grades.

Teachers seemed to be quite aware of the differences for they complained volubly about the combinations they received at the beginning of each year. If principals and language program coordinators were aware of these circumstances, they were seldom mentioned. Only a few described the way children were assigned to the different classes and the way they would be expected to track as they progressed upward through the grades. These conditions confounded the instructional influences to which different groups of students had been exposed. Except for determining in which language the students had learned reading first, described earlier, Development Associates could not control for the variations. Their existence, however, posed a considerable limitation to the descriptions of why achievement scores differed.

Summary and Policy Issues

The combined purposive and random sampling procedures employed in the study of educational services to limited and non-English speaking students in California produced 10,121 children of widely varying characteristics. Their distributions by English fluency, socioeconomic status, student status, and grade approximated their inclusion in the sample districts and to a considerable degree, their incidence in the state enrollments. One characteristic, first language of the pupils, somewhat exaggerated the counts of those from the minor languages because of the efforts to include them in the study; Spanish speaking pupils still made up the largest group within the study, however, just as it did in the state enrollment.

The purposive sampling procedures also produced pupils enrolled in a wide variety of programs and those being served through individual learning plans. The original descriptors of the instructional programs were not always sustained when the actual classroom practices were examined; two program types that were declared to exist within the sample did not materialize. The observations showed that most schools had more than one program in operation in the same grade and in different grades; there was little evidence of students having been tracked through any one curricular thrust. The differing instructional approaches within and across years, sometimes resulting in students being expected to have learned something they were not taught, led to an important policy issue:

> *State, district, and school officials need to commit additional time to planning the instruction that will be offered in the classes, training teachers to implement the planned instruction,*

> *and supervising both the instruction and the placement of the pupils so that counterproductive arrangements are not allowed to detract from student learning.*

This recommendation should not be interpreted to mean that only one curricular thrust will serve the students' needs nor that every teacher should be doing the same things at the same time. It should be implemented to a degree that will ensure students every reasonable opportunity to be taught systematically and logically. Development Associates recognized that some of the programmatic influences had occurred because parents sometimes withdrew their children from one program and placed them in another, that transiency across schools and districts exaggerated the differences, and that even with relatively tight controls, some instructional mixing will occur due to differing numbers of students with different characteristics. The researchers also recognized, however, that many of the varying instructional influences were caused by a weak or non-existing curriculum, by instructional approaches that were determined on an individual basis by teachers, and by irrational pupil placement.

The examinations of the composition of the classes showed that the schools had made substantial efforts to include enough fluent English speaking students to serve as language models, that the range of academic performance of the fluent English speaking students in the rooms was slightly higher than the normal distribution of performance, and that except for special aggregations for specific instruction, classrooms contained proportions among fluent, limited, and non-English speaking pupils reflected in the general school enrollment. Some of the bilingual classes, however, contained limited and non-English speaking pupils from more than one language group.

While in a few commendatory examples, teachers and aides were able to teach in more than two languages, in the majority of cases this kind of assignment placed unusually harsh burdens on the instructors. Extreme variations in reading levels in English and the designated primary language were often so great that appropriate attention could not be directed to the several groups. And in the cases in which speakers of other languages were added into the milieu, nearly no one could be expected to teach them properly. These conditions caused Development Associates to state a recommendation that merits attention:

> *When more than one bilingual classroom is available by grade in a school, and sometimes when reading groups can be formed across grades, steps should be taken to reduce the extreme variability of levels of instruction required in a single room; the conditions in some bilingual rooms are presently frustrating to good teachers and contribute to lessened learning by the pupils.*

The implementation of the several measured instructional practices in the sample classes differed significantly among them. While the differences may not all contribute to variations in learning, some of those declared as important to the teaching/learning process deserve consideration. Although fortunately not frequent across the many sampled classrooms, several conditions are outlined:

> *A few teachers did not exhibit a level of oral fluency and literacy in English expected for professional educators. A substantially larger number of aides was deficient in English, even to the extreme of being non-English speaking by their own admission.*
>
> *A few teachers did not exhibit a level of oral fluency and literacy in the designated primary language expected for professional educators. Further, the deficiencies did not always reside in the same persons; some were fluent speakers but very deficient in literacy. Aides tended to be sufficiently fluent but were often seriously deficient in literacy.*
>
> *It is therefore recommended that the selection and certification procedures be strengthened so that teachers and aides meet the minimum requirements for fluency and literacy in Egnlish and the primary language.*

Teachers exhibited appropriate implementation of the major instructional practices in the vast majority of the cases. Some, however, had serious deficiencies that inhibited carrying out the teaching functions to which they were assigned. The most frequently observed problem was that many in English as a second language programs did not know how to carry out that program. Therefore:

> *The state, district, school, and university faculties are urged to make a considerable investment in the training and retraining of teachers in this rapidly growing type of instructional approach, teaching English as a second language.*

The second area in which many deficiencies were noted was that of teaching Spanish reading. A substantial number of teachers did not know how to carry out this function. Further, many teachers commented that they had not been taught how to teach Spanish reading. It follows, then, that:

> *State, district, school, and university officials should provide specialized training and retraining to teachers on the methods and techniques of instructing students in Spanish reading.*

It is important to differentiate between Spanish fluency and the methods of teaching Spanish reading. Some of the teachers who were very fluent in Spanish were also very deficient in the teaching methodologies. They are two separate abilities, each meriting attention in its own right.

The supervision of instruction appears to have diminished to a very low level of implementation during recent years. Some of this occurred because in earlier times supervisors were seen as "spies" and as exerting undue influence on the way teaching was conducted. Some of the reduction also happened because lowered funding allocations reduced the number of persons who could be expected to carry out supervision and because the existing administrators were burdened with increasing amounts of paper work. Regardless of the causes of the lessening of this function, some teachers exhibited some extremes of deficient behavior that would appear to materially reduce the opportunities for learning in their classes. Utilization of less than half the available time for instruction and engaging less than half the pupils in the room in teaching/learning activities would seem to call for remediation. For these reasons, then, Development Associates recommends that:

> *Districts and schools should reinstitute some judicious use of supervisory functions with the sole purpose being that of increasing the learning opportunities for children.*

When the school officials, teachers, their elected boards, and the community have determined that a particular curriculum or set of curricula meet the requirements for instruction in the classrooms, supervision could also increase the implementation of the instruction and reduce the multiplicity of educational practices present in some schools that had the potential of increasing the difficulties students experienced in trying to learn.

Finally, but most important of all, the issues discussed in this description of the instruction for limited and non-English speaking students is the inescapable conclusion that a very high proportion of the teachers was found to be working hard, implementing sound educational practices, and managing their classrooms very well. The deficiencies had to be discussed and remediation of some of them certainly appeared to be in order. The recognition of them, however, should not imply that they describe most teachers nor most instruction. Indeed, the instruction for limited and non-English speaking pupils in this study sample was, for the most part, being conducted efficiently and well.

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CHAPTER V: SATISFACTION WITH LES/NES SERVICES

The survey of satisfaction with bilingual education and the teaching of English as a second language in the sample schools is a potentially important element within the state decision making process. Legislators and administrators lament that they "hear from those militantly in favor or opposed but rarely from the general population." Further, information in a variety of media tends to portray a growing public dissatisfaction with education generally and the lack of acquisition of the basic skills specifically. The overall concerns about education and the issues on bilingual education are seen as interrelated in some publications.

Satisfaction/Dissatisfaction in the Literature

Any review of the popular literature on education quickly shows a mostly negative opinion about children's learning today. A large portion of media reporting is subjective judgment but some utilize official achievement tests to show worsening conditions. (28) The causes of the decried declines are variably attributed to unprepared teachers, lax administrators, inadequate texts, general lessening of discipline in the home and community, parental indifference, and more recently, to bilingual education and desegregation measures. (19, 24, 25, 26, 29)

Despite the voluminous amount of literature criticizing education, surprisingly few studies were found that directly measured satisfaction/dissatisfaction, especially in recent years. The earlier works of Brameld (3), Havighurst & Neugarten (10), Powers (22), and Foote, Jones & Trapnell (9) are important exceptions. Since then, Dwyer & Dwyer (6), Hefner (11), and several university programs (12, 13, 14, 15, 23) have carried out perception studies with special groups of clients.

Few studies on satisfaction with bilingual and multicultural education were found in the literature. Judgmental articles in favor of bilingual education, but with few if any data presented, are too numerous for inclusion. Those opposed are beginning to appear: Bethell (2) summarized arguments against bilingual education; Lampe (17) discussed the "problematic nature of ethnic studies"; Marjama (19) presented "an Anglo-American view" of bilingual education. Epstein (8) included interview material in his much quoted monograph.

Five quantitative studies were discovered that directly probed the opinions of parents and others about bilingual education. Cohen (4) researched parental participants' opinions before and after a seminar and found them more positive after explanations of bilingual education. Macias (18) found approval for bilingual education in a Los Angeles area; English speaking parents (95%) were more approving than Spanish speaking parents (74%). Karkos (15) found Mexican American parents in a Dallas area highly favorable to general bilingual education but critical of some classroom practices, especially those in which only English or only Spanish was used in instruction. Achor (1) reported similar results. An East Texas State University (7) group surveyed a wide variety of persons and the analyses showed most of the 174 respondents to be in favor of children learning a second language and the majority in favor of instructing students in two languages. Few differences by demographic characteristics resulted.

In summary, there is a body of literature, mostly from non-research sources, stating that educational achievement is declining; others state that it is not. Many articles reported that parents were becoming disaffected with school progress. The few investigations that directly questioned any substantial number of parents found some negative criticism but that there was still a general confidence in the schools and what they teach. Researches into opinions about bilingual education are scarce but they reported favorable replies from somewhat limited numbers of respondents. As with general education, bilingual education is also subject to negative criticism in many judgmental articles.

Research Procedures

The present study elicited Likert type scale ratings and narrative explanations of respondents' judgments through interviews in Armenian, Cantonese, English, Ilocano, Japanese, Korean, Pangasinan, Portuguese, Spanish, Tagalog, and Vietnamese as needed. A combination of purposive and random sampling procedures was used with pupils above third grade, program teachers and aides, non-program teachers, resource teachers, administrators, parents, and community members. The purposive procedures were employed to assure coverage by grades, languages spoken, English fluency, and school reported community proponents/opponents to bilingual education in the samples. The minority languages were slightly over represented due to these efforts. (Complete details of the sampling procedures and the characteristics of the samples are available in *Interim Report V.*) Only one teacher and one parent refused to be interviewed; 21 parents could not be located.

The 2137 interviewees reported 71 languages as their first and 21 others as their second or third. Since the numbers of some of these were so small, they were grouped into language family and/or geographic area groups: Amerindian (2.2% of the sample); Han, the generic term for the major language family of China (7.8%); Indochinese (3.4%); India/Pakistani (0.8%); Pacific Territorial (0.6%); Filipino (3.6%); Mideast/African (0.5%). Several were kept separate because they did not fit easily into general categories or because their opinions might be programmatically important: English (30.3%), Japanese (0.7%), Korean (1.2%), and Spanish (44.3%). The remaining languages were European and were grouped into an Other European category; they comprised 4.5%. Approximately 28% of the total sample was monolingual, 58% bilingual, and 14% multilingual. English was spoken by 83.7% of the sample as either the first or other language.

All interviews were conducted personally and privately so that the respondents could answer without outside influences. The ratings and narrative replies were entered on the guides and checked carefully for completeness by the interviewer and a supervisor. The instruments were then accounted for in the control system; the program affiliation, respondent characteristics, and ratings were keypunched for computer analysis. The narrative replies were tabulated manually. Frequency distributions, breakdowns, and analyses of variance were calculated for the ratings via the variables of respondent type, first language, language group, number of languages spoken, the kind of program pertinent to the respondent, and appropriate combinations of these.

A few collection problems occurred and access to some respondents was limited in two districts. Despite these, the number of interviews was larger than expected and, with the exception of some increases in the minority language respondents, the characteristics of the interviewees approximated their expected distribution within the sample districts.

The designated respondents were very cooperative, listened carefully to the statements, thought them over, asked for clarifications, and seemed to answer honestly. Their explanations and suggestions were almost always congruent with their ratings. The use of the interviewees' languages by the researchers, the willingness to be interviewed, and the adherence to the sample design all lead Development Associates to present the satisfaction data with confidence in the results.

The Satisfaction Findings

One of the most important findings of the satisfaction study did not relate to the interview items per se but to the fact that the respondents' opinions were sought. Three important facets of this finding were that:

> Most respondents, including the professional educators, stated that they had never been asked their opinions about bilingual education.
>
> Almost all the respondents were thus surprised to be asked and then replied, as previously stated, carefully and fully.
>
> Many respondents commented that they thought this was an important investigation.

Decision makers at many levels do an enormous amount of planning, designing, and implementing work regarding limited and non-English speaking pupils in the State of California but there was little evidence, from this study, that they had directly consulted the students, their parents, the school administrators and teachers, or the members of the community about what kind of education should be provided to these students. The examination of the literature appeared to confirm this. Theoreticians, variously inclined militants, and politicians have been consulted. The clients, except as they may be represented by the members of the parental advisory committees, seem to have had little input into the programs. This substudy of the main research, therefore, can contribute significantly to an understanding of the reality of bilingual education in California.

A corollary to this finding was the sincere concern on the part of the respondents for the schools, the programs, the instruction, and their effects on the students. In addition to the general expressions of concern, questions about the type of program that would be most effective, materials that would help, and examples of instruction that produce learning were frequent. While Development Associates had to use extreme caution in its replies so as not to prejudice the respondents' answers to the survey items, it was evident that many did not know what should be done, that there was confusing information presented, and that people, including both the general clients and the professionals, wanted to know what they should be doing for limited and non-English speaking students.

General Satisfaction with the Schools

The main objective of this item probing the interviewees' opinions about the general school instruction was to determine whether they answered about bilingual education in particular or the school in general. The information about the school in general, however, was also thought to be important in itself.

The all respondent mean for the statement "I am satisfied with what the school is teaching the children" approximated *agree.** The mean for each of the types of respondent (except community members), the first language/language groups, and the number of languages spoken all approximated that answer. There was no significant difference among them in how they felt about the schools. There was substantial satisfaction with what the school was teaching the children. The exception, community members, showed a mean near *between agree/disagree.* This group was specially chosen as half proponents/half opponents of bilingual education; although, as will be seen from the several analyses, few were either totally for or against that approach to instruction.

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* *On this item and the next six (importance of speaking more than one language, bilingual legislation, progress in the classes, the way the classes are taught, the teaching of cultures, and community participation), the possible replies/ratings were: 1=totally disagree, 2=disagree, 3=undecided or between agree/disagree, 4=agree, 5=totally agree. Those who answered don't know or who did not answer were excluded from the calculations of the means but included for the frequencies. Readers interested in the many tables and instruments will find them in Interim Report V and in Volume III, Technical Materials, of this final report.*

When the ratings were examined in relation to the kinds of programs offered to limited and non-English speaking students, most of these, too, clustered around the all respondent mean. One exception was found; those representing programs with a primary language pullout (the children were generally in regular English but went for one period a day to a regular program in Spanish, Korean, Vietnamese, or Pit River) were significantly more satisfied with the school.

Although the term *bilingual education* had not yet been used by the interviewer, nearly all the negative explanations concentrated on it. "The school is pushing children into English programs before they are ready" (almost exclusively by staff) and "the schools should concentrate more on English" (divided about equally among English as a second language teachers, non-program teachers, parents, and community members) were the most common responses. The positive comments included praise that the school was meeting the individual needs of the children (mostly resource teachers and administrators), was returning to concentration on the basics (almost entirely from parents and community members), and general expressions of pride and/or confidence in the school.

Despite the comments that appeared to link this item on general satisfaction with the school to satisfaction with bilingual education, the correlations were very low between this and any item directly related to bilingual education. The respondents appeared to answer the item independently of their opinions on the other items.

Importance of Speaking Two or More Languages

It was expected that those who were predisposed toward learning and speaking more than one language would be favorable toward bilingual education. Foreign language research had found a high proportion of children of bilingual parents learning a second language in high school. (16)

The respondents, in general, agreed that it is important for Californians to speak more than one language. Two exceptions were found to this general opinion. Non-program teachers were *between agree/disagree*; further, when the English monolinguals among them were examined separately, the rating fell significantly lower, approaching the *disagree* reply. In fact, the monolingual English speakers throughout the sample gave ratings that approached *between agree/disagree*. The number of languages spoken, however, when viewed across all language groups, did not differentiate the ratings.

The language importance ratings, when viewed according to the first language spoken by the interviewee, showed two significant differences: English was lower than either the Filipino or the India/Pakistani languages groups. The monolinguals among these three groups of interviewees could not be compared since since there were no monolingual Filipino language speakers and the number in the India/Pakistani group was too small for statistical analyses.

Two program groups' respondents gave very high ratings on this item. The highest, almost at the *totally agree* answer, was from those related to the special primary language program. The other, recent arrival centers, was nearly that high and probably reflected the group's intense need to learn more English. One group's respondents, the multi-resource centers, rated the item significantly lower than these two high programs; that difference appeared to be caused by the assignment of low achieving students to those programs, thus influencing the ratings.

The comments on the importance of speaking more than one language were concentrated in three ideas:

. it should be an individual decision;
. two languages increase economic opportunities;
. two languages increase communication, understanding, and cultural appreciation.

One third of the comments centered on the economic issue. One fairly large group said simply that English is the common language and everyone should learn it, and did not directly speak to the question about the importance of speaking two or more languages.

The correlations between this item and those directly asking about bilingual education were very low, showing that there was no necessary relationship between the way the respondents replied to this question and questions about the separate aspects of bilingual education. The interviewees had answered this item independently of the way they felt about bilingual education components.

The Bilingual Legislation

The item was phrased to elicit opinions on the main provisions of the bilingual act: annual census of limited and non-English speaking children, education in a language these children can understand, taking their cultures into account, and community participation through advisory committees. The respondents' explanations suggested that their chief concern was "teaching the children in a language they can understand." Those in favor of the act cited:

. it legitimized bilingual education and/or
. it helped meet the individual needs of the children.

Those that gave a less enthusiastic rating or disapproved, commented that:

. the primary focus should be on the acquisition of English or
. the only objective should be the acquisition of English.

Those in favor of the act, however, far outnumbered those opposed. The overall mean approached the rating *agree*. Still, the largest number of *totally disagree* replies registered for any of the items was for this one. Almost 42% of the non-program teachers disagreed with the legislation; another 20% chose the in between/undecided rating. Their explanations were almost entirely about the slowness or lack of learning English. Some 30% of the community members also disagreed with the act and their comments, too, centered on the need to teach more and better English. A high proportion of the monolingual Spanish speakers disagreed with the legislation. Frequent comments were:

- If I wanted my children to learn Spanish, I would take them back to Mexico.
- They already speak Spanish; what they need to learn in school is English.

This was in sharp contrast to those interviewees who spoke a language of China or Indochina but not English - they overwhelmingly approved of the bilingual legislation; the means were almost at the *totally agree* level. Monolingual English speaking parents agreed with the act.

The mean for the Amerindian speaking parents, almost all of whom spoke a US Indian language, was significantly lower than the highest mean, approximating the *between agree/disagree* rating. Their universal complaint was that the law does not provide for the revitalization of a language. Typical of their expressions of concern were:

> If it weren't for federal funds, we could not have a program. State bilingual money is not available because our children speak English. The local schools won't [or can't] spend their money for an Indian language program.

Even in the site that had an Indian language program, there was great concern about the following year. They expected sharp reductions in the money coming from the federal sources and with Proposition 13, the district was experiencing a considerable difficulty maintaining even the regular program.

Finally, 85 respondents said that "the provisions are one thing, the implementation another." These were about evenly divided between those who thought more Spanish should be taught and those who thought it illegal to teach only Spanish reading (no other language was mentioned) in the first and second grades. Most who gave this implementation response were parents and community members but a few were program and non-program teachers. Not even one respondent commented, negatively or positively, about the language proficiency assessment procedures.

The bilingual legislation satisfied a large number of respondents, a substantial number was undecided, and there were more in disagreement than with any other item in the study. The number of comments was also greater for this opinionnaire item than for any other. There was a sharp difference of opinion among non-program teachers, parents, and community members, especially those that were monolingual. Despite these differences, the vast majority of the respondents expressed substantial support for the bilingual legislation.

Students' Progress in the Classes

The all respondent mean for the children's progress in the classes was just under the *agree* rating, signifying that they were satisfied with the students' progress. Further, whether the calculations were done by the type of respondent (except for the community members), the first language of the respondent, whether or not the interviewee spoke English, how many languages were spoken, or type of program, no significant differences were found, This was despite the investigators' expectation that a differential would exist between those who answered for specific students (students and parents) and those considering the students generally. That difference did not occur.

The community members, however, gave a mean rating that was almost exactly *between agree/disagree.* Since half the community members was chosen for the sample because they were "against bilingual education," the mean was not unexpected. It is important to note that the in between rating was not the most numerous choice of these community persons; their opinions ranged across the entire set of choices from *totally disagree* to *totally agree*. Analyses of the interactions among the characteristics further showed the monolingual English speaking community members to be significantly different in their responses; their mean approximated the *disagree* rating.

Since the programs varied widely in their approaches to educating the limited and non-English speaking pupils, it was expected that respondents would perceive differentials in pupil progress. One type of program, those in which the students were enrolled in a regular English program but went to a special primary language class, yielded a significantly higher mean than the others. Most of the students in these programs, however, were allowed to participate only if they "were doing well in their other classes," thus the rating was a factual statement and is important mainly in that the parents did not see the primary language classes as inhibiting the progress of the students.

It was hypothesized that students whose primary assistance was that offered through individual learning plans would rate their progress as less than that of students in regular programs. It was also expected that their parents would rate their progress lower. Such was not the case. The difference was not significant.

An examination of the comments gave some clues to the kinds of persons that rated the item high, middle, and low. Those who gave a positive rating noted:

- Children are at grade level.
- Attitudes toward languages are broadened through bilingual education.

A number of respondents who suggested that progress was not as good as it should be, offered apologies as well as reasons. Program teachers, aides, and a few administrators said:

- It is unfair to expect these students to be up to grade level.
- We're doing the best we can.
- We lack materials [or adequate materials].
- The classes are too large.
- There are too many performance levels in the class.
- There is not enough home support.

It is important to note, and very emphatically, that some of the conditions described were easily verified. One small district reported that it had averaged 50 new non-English speaking pupils per month since the beginning of school. In a junior high school, 32 non-English speaking students from 11 different languages enrolled the week one investigator was working there. The administration was frantically seeking teachers and classrooms to take care of them - under severe budget restrictions. Many classrooms studied had more than 35 pupils, many of whom were limited or non-English speaking. Not all of the above comments were just excuses.

Those who disagreed or totally disagreed with the children's progress in the classes had a great deal to say about the problems:

- The children are not up to grade level and that denotes low program success.
- Children take longer to learn English in bilingual and English as a second language programs.
- If the children were only in bilingual classes and not in English as a second language programs, they would be lost.
- The teachers are not qualified.
- The children are confused in their language development.
- Too many of these children did not start to learn English reading until second, third, or even fourth grade.

These explanations came from many non-program teachers, a few resource teachers and administrators, a few parents, and many community members. They were not exclusive to these respondents, however, for some program teachers and aides also gave one of these comments.

The most descriptive explanations about pupil progress came from a few school board members, two newspaper editors, and a few parent advisory committee members. While the severity of the problem varied from site to site, the following case taken from the interview notes sums up a major problem for some of the schools:

> I spend a lot of time in the schools and talking with the community. The schools in this town have a nearly impossible task. Take that young man

> working there [in his plant], for example. He's bright, works hard, and learns quickly. He can correct almost any piece of written English material that comes in here but he can't say a ten word sentence correctly.
>
> He goes to school at 8 o'clock and leaves at 3. He's had an hour for lunch, lost another hour in changing classes, spent most of another in PE, where mostly Spanish is spoken. That leaves four hours when he might be exposed to English. The other twenty hours he hears, literally, nothing but Spanish. And even in the four hours of classes, because there are so many severely limited and non-English speaking students, the teachers MUST explain some things in Spanish.
>
> I know the bilingual teachers and how hard they work. If the rest worked that hard it would be better. Some here think these kids should go to school more hours but their families are poor and the kids have to work out, like this young man, or take care of the house and their younger brothers and sisters. They already miss a lot of school because of the economic problems and the illnesses that go with poverty.
>
> I don't know what the answer is but we had better do something fast. This town can't do it; it's too poor. But if the state would put up the money, we could offer volunteer classes, strictly in the English language, at 4 o'clock, 5 o'clock, nights, summers. Maybe that way at least some of these youngsters would have a chance to make it.

The situation is not nearly that difficult in many of the sites; a great deal of English was heard in the halls, on the playground, and in the community. Many of the classes that were monitored were conducted in English or appropriate sections of them were in that language. The wide variability of the opportunities to practice English, and thus to profit more from instruction in English, appeared to be a real factor within the teaching/learning process.

In summary, differences in the perception of student progress ranged from very negative to very positive, although the overall mean was positive. The statistical procedures, coupled with the observations at the sites, did not demonstrate clearly identifiable programs or other characteristics that would explain the different ratings. The comments offered some clues to the reasons but even these, due to the variability of the circumstances at the sites, made explanations for the ratings tenuous at best.

The Way the Classes Were Taught

The mean for this item was just past half way between the midpoint of the scale and the *agree* rating. The highest mean was that of the administrators. It was significantly greater than the means of the two lowest, non-program teachers and the community, but not so different from the other respondent groups. Non-program teachers and community members were significantly lower than the other respondent groups. Furthermore, the mean rating of those in these two groups that spoke English as their first language was still lower. The number of languages spoken, however, did not affect the means.

As with the other items in the survey, the pupils made few comments about their ratings except to give general approval when their ratings were high. The program teachers and aides generally gave explanations that centered on three topics: too much work was expected of the bilingual staff, more inservice was needed, and too few materials were available. The non-program teachers offered fewer suggestions than previously, possibly from professional caution. A small number said that generally too little time was spent on English or did not approve of delaying the teaching of English until the second or third grade. They, too, recognized that bilingual teaching was too much work; ten volunteered that they had taught in bilingual classes but left them for that reason. Resource teachers and administrators emphasized the need for more inservice training.

A high proportion of the parent comments was positive, generally praising the programs and the teachers. This was true whether their children were in bilingual or English as a second language classrooms, or in individual learning plan programs. Twenty-nine monolingual Spanish speaking parents did not approve of teaching only Spanish in the early grades (no other language was mentioned). The community members were about evenly divided between those satisfied with the programs the way they were taught and those that thought more English should be taught.

In conclusion, the analyses showed a mean rating about half way between the midpoint and *agree* on the way the classes were taught. Non-program teachers and community members, especially when their first language was English, were less satisfied than the others. Two programs, the team teaching and the primary language classes, were significantly higher than the program with the lowest mean, the secondary individual learning plan combined with English as a second language. The comments and the distributions of the replies tended to emphasize differences among the non-program teachers, parents, and community members, with a substantial number supporting the program, whatever was being offered, and a lower number opposed to some facet, most frequently suggesting an increase in the amount of English taught in comparison to the primary languages.

The Teaching of Cultures

Since the teaching of cultures is a specified component of the services to limited and non-English speaking students, a considerable emphasis was expected on this subject. The overall mean indicated that satisfaction with the culture instruction was about half way between the midpoint and *agree*. Type of respondent did not produce significant differences; each group judged it about the same. The second highest portion of the respondents, 5%, chose the *don't know* reply.

An examination of the first language of the respondents produced one significant difference; the MidEast/African group was less satisfied than the others. The distribution showed a large cluster, 25%, in the combined disagreement categories. The number of languages spoken did not demonstrate a difference. A further examination showed one particular MidEastern group to answer unfavorably in almost all cases; their difficulties within the US at that time may have contributed to that rating.

As with some of the previous items, the primary language class offering was significantly higher than the others. Every respondent answered *agree* or *totally agree*. Although the means were not significantly different, the tutoring/culture centers and the immersion programs showed distribution patterns quite different from the others with substantial numbers in the disagreement categories. The first program, which was set up to specialize in teaching cultures, apparently satisfied the students and their parents since they responded favorably. Almost all the unfavorable replies came from the non-program teachers and the community. The latter program, immersion in English, contained a significant number of the previously mentioned dissatisfied language group, MidEast/African, which accounted for nearly all the disagreements to this item.

Only a few pupils commented on this item, most of them favorably. Several of the minority language groups noted that little was taught about their cultures. Staff frequently pointed out that, especially in those schools containing several language groups, there simply wasn't time to teach all the cultures. Parents had little to say about the teaching of cultures. The community comments tended to be favorable, particularly from the Spanish group. A number of community members stated that little culture of any kind is taught - they cited a reduction in the teaching of geography and lessening emphasis on US and world history.

In summary, the teaching of cultures showed a somewhat less than enthusiastic rating and there were few differences no matter how the data were analyzed. One language/culture group noted its disagreement, probably because of current unfavorable circumstances. The tutoring/culture center gave a very high endorsement to the teaching of cultures in its classes. Some special concerns were voiced: the amount of time needed to teach all the cultures was limited and some respondents felt that cultures generally were not being stressed in the schools.

Community Participation

For all respondents, the community participation mean was about the midway point between *agree* and *disagree.* All the respondent types clustered around that same mean with the exception of parents, who were significantly more pleased than the others. Language groups were not different in their answers, nor were they different when examined by the number of languages spoken. Except for the primary language class group, which was again significantly higher than the others, the programs were not different. The distributions of the replies were interesting because they were fairly evenly spread across the five ratings. The largest number of *don't know* replies (13.7%) occurred for this item.

The division of opinion was carried into the comments, in which about half said the community participated well and the other half said it did not. Only a few had other than these general reinforcements of their ratings - those few said that some people help a great deal but most of the others do nothing. The Asians apologized for not attending the meetings more but they often said they "trust the school and what it is teaching."

Preferences on Program Enrollment

The item on program enrollment carried five choices or preferences:

1. Not at all
2. One year
3. Until fluent in English
4. Until fluent in English and the primary language
5. All the years of school

Preferences 1, 2, and 5 are fixed amounts of time; 3 and 4 are not, of course, although they intimate different time values. The means, therefore, are less important than the distribution of the respondents' choices, which showed a preponderance of *until fluent in English.* Only a few of each respondent type chose *not at all* except community members (13%). The *one year* preference was picked by 11% of the pupils, 17% of the non-program teachers, and 12% of the community members. The non-program teachers (1%) were not inclined toward *all 12 years of school* but a substantial number in each of the other types was.

The distribution of the choices when the respondents were divided by first language/group varied a great deal but a high proportion still chose *until fluent in English.* The exceptions were the Amerindians (whose comments underscored their concerns about the disappearance of their languages), those from MidEast/Africa (who were very divided in their opinions on enrollment), the Pacific Territorials (also sharply divided), and the Spanish speaking (who preferred *until fluent in English and the primary language*). Many from the Han group (29%) chose *all the years of school.*

Respondents from two programs showed high preference for *until fluent in English and the primary language:* those from the recent arrival centers and those from the tutoring/culture centers. The latter group was mostly Amerindians and they also formed the majority of the primary language class respondents; that program's replies were overwhelmingly *all the years of school.*

The programs were regrouped to determine if more involvement in bilingual education caused the respondents to choose an alternative with more primary language inclusion. When all those associated with programs with organized primary language instruction were compared with those with none, no difference was found. The two had about the same distributions as those of all respondents, about 40% choosing *until fluent in English* and 30% choosing *until fluent in English and the primary language*, regardless of program involvement.

Almost half the respondents commented on this item. Those who chose *not at all, one year,* and *until fluent in English* generally emphasized the necessity of learning English. However, a substantial number of those that chose one of the other two alternatives also made that comment. These latter, though, coupled that with explanations about the value of bilingualism, cultural identity, and the use of the primary language to enhance the students' learning in other subjects.

The staff offered some technical explanations of their choices. "There are not enough qualified teachers to implement bilingual education adequately, thus in many classrooms the children are getting short shrift," was an eloquent expression that was not uncommon. "The schools should do a good job of teaching English and we'll provide the primary language instruction" was mentioned several times by Spanish speakers and those from India/Pakistan. The Chinese also emphasized the need for the schools to teach English well but many still chose the longer alternatives for bilingual education.

Summarizing, then, there were not as many differences as might be expected in the respondents' choices for the period of enrollment in bilingual education. Non-program teachers and some community members tended to choose one year or less. The highest proportion of most of the first language/groups picked *until fluent in English* but notable numbers of Amerindian, Han, and Spanish speakers chose *until fluent in English and the primary language* and/or *all the years of school.* The programs containing large numbers of Amerindians also were characterized by making these same choices. A fair number of respondents associated with the recent arrival centers also chose a longer period, demonstrating their dependence on the primary language for success in school.

Proportions of English to Primary Language

The final item in the satisfaction opinionnaire was a selection of the preferred mix of languages: English to primary language. The respondents were asked to consider the limited and non-English speaking pupils and to consider one day of instruction. The proferred alternatives were:

1. 100% English
2. 75% English to 25% primary language
3. 50% English to 50% primary language
4. 25% English to 75% primary language
5. 100% primary language

A few respondents objected to the alternatives, remarking that "it depends upon the students," "it varies from time to time," and "I prefer something between 1 and 2." They were then asked to consider the ideal. Most subsequently made a choice; those that didn't were coded *no reply*. The total of these was not great; the *no reply* proportion was less than 2%, which included some that simply did not want to answer.

The all respondent mean was just above the 75% English/25% primary language category; almost half the respondents made this choice. The means by respondent type were not different except for non-program teachers, whose mean fell about midway between 100% English and the 75%/25% proportions. More than half the non-program teachers chose the latter but 26% chose 100% English. Although the mean was not significantly different from the others, the community members were second highest in the choice of 100% English.

Few of the respondents picked 25% English/75% primary language or 100% primary language. Their numbers, even when combined, were negligible; they made up less than 2% of the 2137 respondents.

First language was not a differentiating factor in the choices made. No significant differences were found. The response frequencies showed some interesting variations. The speakers of the Han languages group (44%) and Spanish (40%) chose the 50%/50% category. The number of languages spoken did not produce different means.

The program respondent division gave only one significant difference with the recent arrival centers' high mean. The distribution of those respondents also was different, with one of the low percentages for 100% English and one of the highs for 25% English/75% primary language. Considering the beginning stages of their English learning, these differences were not surprising.

The explanations were about as those for the previous items had inferred. A very high proportion, whether they chose 100% English or the 75%/25% proportion, discussed English as the dominant language, the need to master the language in order to do well economically, or the low level of many students' English proficiency. A surprisingly high number of comments, 87, in some way criticized the prevalent program in their area as utilizing too much primary language. The suggestions for incorporating the primary language included teaching it and English in every grade; teaching English in the primary grades and the other language thereafter, and using the primary language only to facilitiate comprehension of the English materials.

Viewing the results of this item as a whole, the respondents were more nearly of one opinion on the proportion of English to primary language than for any of the other items about bilingual education. The few differences in the means were as expected from the previous analyses or from the situation of the students. The comments reinforced their choices - teach a very high percentage of English. The only important exceptions to this generality were the Chinese and Mexican Americans; among both, about 40% chose the 50%/50% mix. Less than 2% opted for the higher proportions of the primary language; very high numbers of comments were in opposition to ever teaching only in the primary language.

Summary of the Satisfaction Survey

Separate instruments for students above third grade, staff (teachers, aides, resource teachers, administrators), parents, and community members in a purposive/random combination sample, were devised to cover the major areas of concern in the provision of services to limited and non-English speaking pupils. Separate language versions were prepared and the interviews were conducted personally by interviewers who spoke the appropriate language fluently and who had experience in bilingual education. The 2137 interviews were conducted in 70 schools in 15 districts.

Seven satisfaction items were included and two preference choices, all using a Likert type scale. These were computerized, together with the interviewee characteristics, and analyses of the replies carried out. Open ended replies seeking explanations for the ratings were requested. These were tabulated manually and reported with the quantitative data.

The characteristics of the interviewees were analyzed to determine if they conformed to the sampling plan. Two variations occurred: 1. the Indochinese sample was slightly smaller than planned since some of these, although from that geographic area, reported a Han language as their first, and consequently, the Han sample was larger than expected; 2. the proportion of Spanish speakers was somewhat lower than planned because many Mexican Americans reported that their first language was English. The other sample components approximated the planned numbers and percentages. Overall, the minority languages were higher than in the state as a whole but that was planned to assure that they would be adequately reached in the survey.

The first two items in the survey, general school satisfaction and the importance of speaking more than one language, were expected to be highly correlated with the satisfaction with bilingual education. The analyses showed that not to be so with this group of interviewees; the items were independent of each other. The interviewee might be happy with the school generally and unhappy with bilingual education, or the reverse. The importance of speaking two or more languages likewise was independent of the satisfaction with bilingual education.

The interviewees expressed a considerable satisfaction with their schools. Further, when the means of each respondent type, first language spoken, and the number of languages spoken were examined, no statistical differences appeared. The amount of satisfaction or dissatisfaction was about the same regardless of these respondent types. Those associated with one of the programs, the primary language class, were significantly higher than those of any of the other programs.

As a whole, the respondents agreed that it is important for Californians to speak more than one language. Only two groups tended toward a lower score, both near the midpoint: non-program teachers and those whose first language was English. Whether an interviewee was monolingual, bilingual, or multilingual did not differentiate the ratings. The persons related to the primary language class program again gave a higher rating than did those from the other programs.

The interviewees as a group agreed that the bilingual education legislation was satisfactory. Monolingual English speaking non-program teachers, respondents that spoke English first, monolingual Spanish speakers, and Amerindians had substantial numbers of persons within their groups that disagreed. On the other hand, those who spoke one of the Han or Indochinese languages overwhelmingly approved of the bilingual legislation.

It should be noted that these groups, plus some respondents in the others, disagreed or were undecided about the legislation for three reasons: 1. some thought the act permitted too much primary language instruction; 2. the provisions of the act are satisfactory but the implementation does not accomplish the goals; 3. the Native Americans and those representing some other minor languages complained that there are no provisions for the revitalization of a language when it is being lost.

Since a considerable amount of criticism is leveled at bilingual education in various meetings and media reports, it was expected that opinions on pupil progress might show the widest disparity of any. That was not the case; the respondents pretty much agreed that the pupils' progress was satisfactory. Most of the subgroups within the total sample were alike on this item. English speaking community members, however, were significantly lower than the others.

Despite the similarity among the scores, many concerns were brought out in the explanations to the ratings on this item. One of the most important was the problem of teaching English in a community in which little English is spoken. Some suggestions for strengthening the English there included lengthening the school day, adding Saturday and summer programs, and reducing the amount of primary language exposure during the school day. At the same time, however, recent immigrants and many school personnel felt that some students cannot function yet in English and need some subjects taught in the primary language so they can continue to progress in school.

The respondents rated the way the classes were taught as between undecided and agree. Two groups gave significantly lower ratings than the others, non-program teachers and community members. And when these respondents' first language was English, their rating was still lower, approaching disagree. Monolingual Spanish speaking parents also tended toward disagree.

The positive comments pointed out that a valuable asset, multiple languages, was being preserved, that primary language allows some students to succeed when they could not in English only, and especially, that the staff was doing a good job. The negative comments all related to the amount of primary language used in the instruction: too much time devoted to primary language; too much use of primary language in the classroom, apart from the instruction; and strong disagreement with teaching only in the primary language. Interestingly, the monolingual Spanish speaking parents were more opposed to the latter point - teaching only in the primary language - as the monolingual English speakers.

No important differences were found among the ratings on the teaching of cultures in the programs. The comments were quite favorable from the Spanish speaking respondents. They were somewhat less so from those who speak some of the minor languages; these alleged that their cultures were not taught. A number of respondents, particularly among the community members, noted that the schools do not teach the US culture as well as they should and especially decried what they saw as a reduction in the teaching of history, civics, and geography.

Combining these three main pupil associated items, an index was computed. When viewed by first language, number of languages spoken, or association with one of the programs, only one important difference could be seen: the respondents associated with the primary language class were significantly higher than the others. The index by type, together with the separate item means, is displayed in the following table.

Table 2C: Pupil Associated Items and Computed Index by Respondent Type

Respondent Type	Item Mean			
	Pupil Progress	Program Teaching	Cultures Teaching	Index
Pupil	4.026	4.032	3.756	3.948
Program Teacher	3.753	3.611	3.650	3.660
Program Aide	3.877	3.835	3.699	3.802
Non-Program Teacher	3.578	2.645	3.477	
Resource Teacher	3.625	3.625	3.900	
Administrator	4.086	4.135	3.914	4.043
Program Parent	3.944	3.736	3.455	3.612
Community Member	3.007	2.838	3.020	2.920

The highest possible mean and index is 5, signifying totally agree with the statement "I am satisfied" and the lowest is 1, totally disagree with statement.

As would be expected from the separate item analyses, the community member index was significantly lower than the others, approximating *between agree/disagree.* The indices for the pupils, aides, and administrators were about at the *agree* rating, the others somewhat lower. With the exception of the community members, the respondents expressed "guarded satisfaction" with the pupil associated items.

The respondents were not well satisfied with the community participation in the programs; their rating was undecided and lower. Some of the research sites had considerably higher ratings than others, apparently reflecting real differences in the number and quality of the community participation. The Amerindian respondents rated the participation higher; the Asians lower. The comments noted that more parents should attend the meetings and help with the schools.

The interviewees were then given the opportunity to express a preference for the period of enrollment of the students in bilingual education. Very few chose *none at all* and not many chose *one year. Until fluent in English* was selected by a very large majority and a sizable number took *until fluent in English and the primary language.* The Amerindians, Spanish, and Han language respondents were more likely to choose the latter or even *all the years of school.*

The final item offered alternatives to the proportion of English to primary language in daily instruction. The 100% English choice was favored by monolingual non-program teachers and community members; a scattering of others also took that option. A very high percentage of the respondents chose 75% English/25% primary language; in some of the breakdowns by characteristic, as much as 80% indicated that preference. Han and Spanish speakers tended more toward a 50%/50% mix. Since these were also heavily represented in the recent arrival centers, that program, too, showed a high choice for that alternative. The number of respondents that chose the 25% English/75% primary language and the 100% primary language was negligible; these were not seen as viable alternatives.

Overall, then, the respondents showed a substantial approval for the services being provided to limited and non-English speaking pupils, whether these were organized classroom or individual learning plan types, or whether they included direct primary language or concentrated on English as a second language. In fact, even when the more formal English as a second language program was missing and English was taught through the regular English program, the ratings were just about the same. That did not mean that every item in the survey met with unqualified assent. The bilingual legislation, the way the classes were taught, and the community participation were more cautiously endorsed by the majority and there were sizable minorities that disagreed with them.

One of the striking findings of the survey, especially brought out in the explanations for the ratings, was the concern for learning English. Almost no one suggested that this should not be the prime goal of the programs and the schools. As a corollary to this, a persistent criticism was voiced against teaching pupils only in their primary language. But the primary languages were held as important, too; very few suggested that they should not be taught.

Perhaps the most useful of the findings was that the respondents were thinking about their schools, about bilingual education, and about the goals for the children. The conditions varied a great deal from one site to another and those, too, were reflected in the perceptions of the respondents. Nearly a third of the respondents was undecided about or had disagreements with the way the classes were taught. Half had concerns about the community participation.

Finally, the respondents were surprised and pleased that their opinions were sought. Apparently it is rare for anyone to ask parents and community members what they think about bilingual education; even many of the staff noted they had not been asked previously. That pupils, program teachers and aides, non-program teachers, resource teachers, administrators, program parents, and community members were asked their opinions and responded thoughtfully and freely, was an important result of the research in and of itself.

Policy Issues

One very important policy issue emanated from the conduct of this investigation into the satisfaction of those associated with the programs and the schools: the respondents were surprised that their opinions were sought and gave them thoughtfully and willingly.

> *Studies into education, when not consumately technical, should seek the opinions of the associated school, home, and community people.*

Many persons in the researched sites had the opinion that it does not matter what they think, that programs will come and go according to someone's notions of what should be done. In a period when both financial and psychological support is badly needed, that opinion is very unfortunate.

Despite the unfavorable publicity about schools, one important statement resulted from this very wide satisfaction study:

> *The students, parents, and community still retain a considerable confidence in their schools, in the staff, and in the schools' ability to accomplish the educational goals.*

While there were some interviewees that differed from this opinion, they were few in number. This reservoir of generally positive opinion, of confidence, can be utilized to improve the conditions of education in California and its resultant effects.

Policy makers had noted that they receive a great deal of negative criticism about the bilingual legislation and its implementation in the schools. While there were some important exceptions to the overall opinion, it was also evident that:

Students, staff, parents, and community members generally approved of the legislation.

An important consequence of the analyses by respondent type and other characteristics was that the approval was not limited to any one ethnic minority or language group. Those who spoke English as their first language were just about as likely to approve as those who spoke another language first. Relatively new immigrants to this country were somewhat more approving than those here for some time but both approve, as a generality. Some exceptions to this overall approval were found that should be noted: many non-program teachers and some community members had reservations about the legislation and/or its implementation. They felt that additional implementation assurances need to be included, especially that the children learn well. They, and many program parents, felt that too much primary language was being taught and utilized in the classrooms and that this demonstrated inadequate implementation of the legislation. Some concerns were also expressed that the legislation does not provide for the revitalization of a language that is being lost.

Unexpectedly, the interviewees expressed general satisfaction with the progress of the pupils in the classes. Again, important segments of the non-program teachers and the community members were undecided or disagreed. The general satisfaction, and the approval of bilingual education as a whole, did not apply to the way the classes are taught. That item brought an undecided, or between agree/disagree, opinion and a wider distribution of responses than any other.

Important segments of every respondent type had reservations about the amount of primary language that was being taught.

There were two sides to this concern. One very small group expressed the opinion that not enough primary language instruction was given, or that the primary language instruction was not being done well enough. The opposite concern was far more numerous, however, with substantial numbers of every respondent group, and notably so in some sites, of the opinion that too much primary language was being taught. A considerable amount of opposition to teaching only primary language reading, to the exclusion of English reading, in the first year or two of school, was expressed by some pupils, teachers, and aides, and by substantial numbers of non-program teachers, parents, and community members. Research into that practice is indicated and the resulting information should be widely disseminated to the entire population, not just to professionals.

The respondents were undecided about the amount of material taught about the cultures. This included not only the cultures of the several ethnic/language groups but the US culture as well. What was seen as a reduction in the teaching of US and world history, geography, and civics was a concern to many interviewees, especially community members.

The respondents were in surprising agreement about the amount of time students should be enrolled in bilingual education and about the proportion of English to the primary language that should be included.

> *Limited and non-English speaking students should be enrolled until they are fluent in English and English should constitute about 75% of their daily instruction.*

Some noteworthy exceptions to this generality should be specified. Some Spanish and many Han (Chinese) speakers tended to favor more primary language instruction, opting for more years of enrollment and an English/primary language composition beyond 25%. Further, recent arrival respondents recognized that their children could not progress equally if only small amounts of their instruction were in the primary language; they suggested that some subject matter courses be taught in the primary language while the students learn English.

The general research findings pointed out that the conditions varied widely from one part of the state to another. Although generally recognized, the investigators must state that:

> *It would seem unlikely that one single set of specifications about enrollment, proportions of English to the primary language, or program components would apply absolutely to every school or area.*

The respondents frequently brought out the special circumstances of their environment and often tempered their replies to speak to them. Provisions should be made that would permit the formulation of programs that meet the needs of the populations within the constraints or advantages each area experiences. While the desire for uniformity is understandable, and of course easier to administer, the respondents convinced the investigators that such is not in the best interest of the students.

Finally, there were some sites within this study that suffered unusual hardships from the present system of distributing funds and these were important in the minds of the interviewees. Thus, although they will also be dealt with elsewhere within this study, they are included in the satisfaction findings. Some schools and districts received very large numbers of students needing services during the school year; yet there appeared to be no feasible way to report these needs and acquire additional resources for dealing with them.

> *A provision for midyear adjustments for schools/districts that receive large numbers of new limited and especially non-English speaking students is needed.*

Many respondents in certain sites felt that the present constraints on local funding, coupled with the restrictive beginning of the year fund allocations, make providing the necessary services impossible. Consequently, the very large classes restrict what teachers can accomplish and what the children can learn. The educational system did not work equitably under these circumstances. Bilingual education, or any other services to limited and non-English speaking pupils in California, cannot function properly when the conditions are so adverse.

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CHAPTER VI: PUPIL ACHIEVEMENT

An important facet of the study of the educational services to the limited and non-English speaking pupils in California was the examination of their achievement via district administered standardized tests to ascertain the possible relationships between differing achievement and the instructional practices through which they were taught. Assembly Bill 65 specified that that examination was to be via both English language tests and any available in the primary languages. Test scores were utilized in only one primary language, Spanish, since no other primary language test had been standardized to a sufficient degree for consideration.

Research Specification

The basic approach to the study of pupil achievement was the determination of the relative contributions to or detractions from learning by the many influences on that process. Recapitulating the details furnished in Chapters I and IV, those influences were separated into three categories.

1. Pupil characteristics: the first language learned, English fluency, socioeconomic status, student status, and the grade in which the pupil was enrolled.

Research has consistently found most of these as significant* differentiating variables when test scores were examined. They form a set of given ingredients that serve as parameters to program operation. Development Associates documented these characteristics on individual students through rigorous examinations of official records and with direct inquiry to the students, a two pronged approach that greatly increased the accuracy of their specification.

2. Program Specification: the exact nature of the program composition for each individual student in 1980 and with an additional measure of the beginning reading program.

Various categorizations of the nature of the programs for limited and non-English speaking students appeared in the literature and in the official documents of the districts and the state. The general descriptors of the programs and the lack of precise specification of the components rendered most of them useless as variables of statistical analysis. Through actual observations, the exact elements of the programs were determined and they were grouped into categories labeled *observed programs* for this research.

3. Instructional Practices: the measured methods, techniques, and delivery modes of the actual instruction as observed in the sample classes.

**The term significant is used in the statistical sense in this chapter and indicates that the finding is real, not due to chance. The minimum level accepted was p=.05; unless otherwise noted, however, the significance level was p=.001.*

The instructional practices variables were selected from both the research on, and the theoretical descriptions of, bilingual and monolingual education. The amount and/or quality of each was measured in the actual classroom implementation of the program by experts in bilingual education, English as a second language instruction, and in the languages utilized in the delivery of the services as described in Chapter IV and specified in detail in *Interim Report V* and *Volume III* of this final report.

The Study Samples

Purposive and random sampling procedures were employed to assure that insofar as possible, the pupils and the programs were broadly representative of those in the state. The presentations of the samples in Chapter IV demonstrated that the goal had essentially been achieved; only the slight over representation of the minor language pupils and programs varied significantly from their existence in the districts and generally in the state. The data from the samples provided an accurate depiction of the services to limited and non-English speaking students.

The present facet of the research, the examination of pupil achievement via their scores on standardized tests, was influenced by a second sampling circumstance. Development Associates did not test the sample students; the researchers collected the scores of tests administered by the districts and federal programs. That reality imposed two important restrictions on the final study results. The first of these was that those students with scores on any of the subtests of the administered tests for any of the three years of the study, formed a subset of the designed sample. The exact nature of the characteristics of that subset was indicated in the discussion of the variables in Chapter IV and is further detailed, as they may have influenced the results, in the present chapter. The second influence derived from the psychometric properties of the several tests and levels of the tests administered to the students and resulted in some restrictions of the analyses that could be performed on those scores. Further details on this latter problem will be provided in a later section.

Several examinations of the subset sample, those students with scores, were conducted to determine how that subset varied from the designed sample. The results of one of those investigations, the composition of the subsamples by the major pupil characteristics for each year for which scores were collected - 1978, 1979, 1980 - are presented in Table 21. The greatest number of scores, and the highest proportion of the subset to the entire sample, was achieved in 1980. Two factors were involved: one, the collection of the scores was more complete when the researchers could be there when the scores arrived and before they could be sent out to the different schools, programs, and teachers; two, although Development Associates exerted no influence on who was tested, a higher proportion of the sample students was tested in 1980 than in any of the previous years. The districts knew which classrooms were in the sample and they apparently simply included more of them in their testing program for the year. It was an unintentional result of conducting the research.

Table 21: Comparative Composition of the Pupils with English Reading Scores by Year and Pupil Characteristic

Characteristic/ Category	1978 N	1978 %	1979 N	1979 %	1980 N	1980 %
Fluent English	880	49.1	1,602	43.2	2,297	39.9
Limited English	799	44.6	1,681	45.3	2,393	41.5
Non-English	112	6.3	428	11.5	1,074	18.6
SES: Low	1,344	75.0	2,786	75.1	4,462	77.4
SES: Above	447	25.0	925	24.9	1,302	22.6
Regular	1,457	81.3	3,141	84.6	4,861	84.3
Migrant	284	15.9	471	12.7	768	13.3
Special Education	50	2.8	99	2.7	135	2.4
ALL	1,791	100.0	3,711	100.0	5,764	100.0

An examination of the mean T-scores by pupil characteristic, by subtest, by year, exhibited in Tables 22, 23, and 24, reveals a general and slight increase across the three years, although those differences would not be significant in statistical terms. Nevertheless, the subsets were examined to attempt to determine why they were different by year. The composition of the subsets, as shown in Table 21, did not present clear evidence for increases. The proportion of fluent English speakers declined and so did the percentage of higher socioeconomic status students; those two changes should have resulted in lower scores. On the other hand, an increase in the proportion of regular students (as contrasted to migrant and special education students) occurred between 1978 and 1979, then remained relatively stable between 1979 and 1980; that should have produced an upward trend.

One other factor was involved in the changing subsets across the three years: there was an increase in the proportion of first and second grade scores each year. As will be discussed in more detail in the testing section, the tests and levels of them that were administered to first and second graders possessed certain psychometric properties which resulted in higher T-scores, especially for the group that answered most of the items correctly. Thus, those tests and levels could have, of themselves, exerted an upward influence on the scores.

Despite these several influences, the changes in the scores were so slight that they did not represent any appreciable deviation.

For that reason, in many of the data presentations, the base year, 1980, will be used and any important differences for 1978 or 1979 will be noted. That presentation mode was chosen because of the nearly negligible differences between years, because the proportion of 1980 to the entire sample was greatest and thus possibly somewhat more representative, and since the observations were conducted in 1980, some of the research variables could only be associated with that year.

The Tests and Scores

The districts had administered many tests, different forms of them, and various levels within the forms. Scores from the following English tests were collected and processed:

Stanford Achievement Tests (SAT), form P, levels I, II and III; form I, levels I and II.
California Achievement Tests (CAT), form A, level 2; form B, levels I and II; form C, levels 11 through 19.
Metropolitan Achievement Tests (MAT), form P, levels 1 and 2.
Science Research Associates (SRA), elementary, grade 4.
Comprehensive Tests of Basic Skills, form Q (CTBS/Q), levels B and C; form S (CTBS/S), levels B, C, and I through IV.

The kindergarten levels of these same tests were also administered, but since the test publishers did not advise their use across tests, the raw scores were not collected.

Approximately 71% of the scores collected was from the CTBS/S, 18% from CAT/A/B/C, 8% from SAT, leaving only 3% for all the others combined. Only raw scores were collected since the different test companies use different formulae for the transformation of the raw scores into the other reporting modes.

Two Spanish tests were administered that had reasonable publisher data on their psychometric properties:

Comprehensive Tests of Basic Skills (CTBS/S), form S, for grades 1 through 8.
Inter-American (St. Mary's University of San Antonio, Texas), *Prueba de Lectura*.

The Inter-American test is very different from the CTBS/S Spanish test and no research was known that compared its reading results with the latter. Further, the scores were few and scattered across the grades and years, making their utility for this study marginal. After careful investigation into them, it was decided not to incorporate them into the achievement results. Thus all of the analyses of the Spanish achievement scores were performed from the Comprehensive Tests of Basic Skills.

Some districts and programs test twice for a pre and post score within the same academic year. Development Associates collected only those from the spring testing period for each of the three years. Test scores are not kept in the same place in all districts. The data collection team investigated every possible source of data in order to maximize the return rates. While in some districts a central file of all scores was maintained, in some the schools were the repositories of the scores; in still others the funding programs such as Title I and Title VII kept the files. Student cumulative folders were valuable sources of data for the previous years, 1978 and 1979. In a few cases, the scores had been issued to the teachers, either for entry into the cumulative folders or for diagnostic/placement purposes. Counselors were in possession of sets of scores in some secondary schools. Diligent searching greatly increased the data available; had the researchers accepted just what was proffered at first asking, nearly a third of the scores in this study would have been lost.

Another important part of the research was the careful notation of the specific test, form, and level administered to each individual student. Different programs sometimes gave different tests to the recipients of their funding. One school in a district would apply one test or level while others used quite different achievement examinations for the same grade. Further, students may have been tested in some locale other than the room in which they were registered, and a different test was administered there. Finally, no rationale could be discovered to explain why some students took certain tests - they may have taken the test appropriate for first grade in first, second, and third - or quite the contrary, a few had been administered the test for third grade in first, second, and third. In one extreme case, ninth graders had been given the test for second grade. While norming data were available for some of these interchanges, others were so far from the appropriate level that they could not be incorporated into the study with confidence and had to be dropped. In one fourth grade room, students had scores from the California Achievement Tests, the Metropolitan Achievement Tests, and Science Research Associates. Only the careful and individual documentation of the scores, tests, and levels protected the data from contamination.

All the data for each student were stored first by complete student name and then transferred to a record with a unique identification number. Further, the students were placed into subfiles by classroom, school, and district to permit the complete control of all data at a later period. The aggregation to whole classrooms was of particular utility in one of the quality control features, that of the examination of the scores as compared to similar classrooms of that same grade or grade combination. When any unusual individual score or groups of scores were found by the control supervisor, investigation into the reasons was immediately instigated. In four cases, the test level reported was inaccurate; the follow-up produced the correct information and the scores could be used. In another, no satisfactory answer could be obtained and the scores had to be abandoned. In two other classes, the investigation showed that the standardized tests had been translated to Spanish and Cantonese; these, too, had to be dropped from the analyses. In four other classes in which only hand written records were made available at first search, some scores were impossible for the test level reported. The followup produced the computer printouts from the companies and the corrections could be made. While these occurrences may appear minor, they were not; they cumulated to almost 8% of the scores for spring 1980 and substantial errors could have been introduced into the data had they not been studied and appropriate actions taken.

Development Associates had intended to enter the raw scores into the computerized records and convert them to T-scores via the formula:

> (raw score minus publishers' test/level mean) divided by publishers' standard deviation = z-score;
>
> (z-score times ten) plus 50 = T-score

Since there were so many different tests, forms, levels, and grades to which they were administered, the required computer program for the conversions would have been of mammoth proportions and not cost effective. Consequently, the staff produced the T-scores manually and prepared a handbook from which the T-scores could be determined directly from the raw scores. These conversions were then made and only the T-scores were entered into the computerized records. One result of this manual transformation was that the differences among the T-scores by test, form, level, and grade became readily apparent; grave doubts were raised as to the advisability of comparing the scores across years. This potential problem was called to the attention of the project officer, who in turn consulted with the Office of Research and Evaluation of the State Department of Education. That office convened a special panel of experts on tests and testing to consider the possible impact of the apparent problems.

An approximate difficulty factor was calculated for each of the tests by level and grade; these showed substantial differences, especially within the levels of some of the tests. At the same time, Development Associates produced computerized comparisons of the score distributions by test and level to determine the potential displacement within the sample. Those calculations showed that for this sample the differences were not very great. The SAT T-score means were somewhat higher than the others and the distributions were less negatively skewed at the upper end. Levels B and C of the CTBS/S also gave higher means and less negatively skewed upper distributions. (The complete report prepared for the special panel is contained in *Volume III* of of this final report.)

The final judgments from the consideration of these problems affected the statistical analyses that could be performed on the achievement scores of the sample students:

1. The differences evidenced between the T-scores for different levels of the tests are so great that statistical comparisons across the levels are untenable.

This was unfortunate, especially for those students who were non-English speaking in 1978, who had made substantial gains in their acquisition of English, and answered many more items correctly in the tests. A calculation of those gains would have provided important information on the services to those students. Nevertheless, since Development Associates could not separate the real gains from the differences caused by the psychometric properties of the tests, those calculations were not made.

2. The differences among the tests administered, when examined within a year, and thus for the most part within a test level, were not great and should not have constituted a major part of the T-score variations; these, then, were recommended so long as Development Associates called attention to their existence and was careful not to impute importance to small differences.

That is the procedure that has been followed in the presentation of the analyses of the scores in this study. Not only are the calculated levels of statistical significance presented, but the means are also listed. The size of those means guided the conclusions made about them and attention was called to those that were not large enough to assure that the test properties did not constitute an important part of them.

The Analyses

The T-score means were calculated for the subtests (reading, language, and mathematics in the English tests; reading and mathematics in the Spanish tests) for each year and by the several student, program, and instructional practices categories specified in Chapter IV. Statistically significant differences were then explored via analyses of variance to determine the effects of the variables (characteristics) on the scores, singly and in combination. Finally, stepwise regression was used to determine the relative contributions of the several variables to the differences in the scores.

All the analyses were performed via the second edition of the *Statistical Package for the Social Sciences* (17), through an amended eighth version available at the computer center of San Francisco State University and the State University System facilities in Los Angeles. All the student data were committed via keypunch procedures to cards and those were 100% verified. Subsequently, the data were transferred from the cards to magnetic tape, both to preserve the quality of the cards that would have been imperiled from constant manipulation in the card readers and to provide a permanent storage in case subsequent analyses might be desired. Development Associates will preserve the tape for one year unless otherwise directed by the Office of the Legislative Analyst.

Finally, Development Associates has made every possible effort to protect the anonymity of the districts, schools, teachers, aides, other staff members, and the students involved in this study. That guarantee was of consummate importance in obtaining the complete cooperation of all concerned in making this study possible. Further, the major findings of this study are such that they apply to almost any district or school in the state and perhaps in the nation. The generalizations that can be made from the findings are substantial and do not require the identification of their sources. Development Associates has therefore taken every precaution to avoid descriptions or inferences that might be associated directly with the sample districts and schools; readers are cautioned, therefore, that attempts to infer association of the findings with the sources would be in serious error. In fact, no such attempts should be made since they could result in false imputations.

Limitations to the Achievement Study

Throughout the presentation of the design, samples, and data collection procedures in Chapter I, Chapter IV, and in this present portion of the report, the appropriate limitations have been described carefully and candidly. Even though they are in reiteration, Development Associates reminds the readers of three potentially serious limitations to broad generalizations from the findings in this report:

1. The samples were selected through a combination of purposive and random procedures that produced components that were broadly representative of the services tendered to limited and non-English speaking pupils; the utilization of existing achievement scores reduced the samples and Development Associates had no control over that reduction except through its efforts to collect every possible score that resided in the districts and schools.

This sample reduction was generally in about the same proportions across districts, schools, and classrooms and in some cases, the subset contained too few student achievement scores for analysis. Despite the reduction, the numbers associated with most of the variables are substantial and lend credence to the findings.

2. The previously discussed deficiencies in the psychometric properties of some of the tests, forms, and levels have introduced some contamination into the scores.

The analyses were altered to minimize the results of this problem; further, in the discussion of the findings, cautionary statements will be included when calculated differences might contain an unwarranted amount of that contamination. Therefore, some differences that may be real and merit attention will be ignored in the conclusions.

3. Some of the findings cannot be explained from the data and information obtained.

Despite the extreme care with which the research was designed and the vast amount of information compiled, the authors of this report were unable to determine why some differences existed among the scores. Some followup probing was conducted and indications of some of the causes were produced. Nevertheless, some of the findings are unexplained and the only recourse was to urge that additional research be carried out to determine the reasons for them.

These limitations to the research are considerable and regrettable. The research, however, was performed with strict controls of quantity and quality seldom achieved in a large scale enterprise such as this - 10,121 students tracked across three years of educational activities in 15 districts, 76 schools and centers, and 274 classrooms plus several other learning sites. Further, the wholehearted cooperation of thousands of professionals and paraprofessionals aided materially in assuring that the information was complete and accurate. Therefore, those qualities lead Development Associates to present the findings with a high level of confidence in their veracity and their usefulness. The findings deserve the consideration of state and local policy makers so that the future services to the limited and non-English speaking pupils of California may provide even greater opportunities to learn than are now possible.

English Achievement

Nine achievement variables - the three subtests of reading, language, and mathematics for each of the three years of the study - were included for examination. Measurement of 36 dependent variables, each chosen from previous research findings or from the theoretical constructs on teaching limited and non-English speaking children, was attempted. Many of those variables produced no effects on achievement, some because there were few differences in their implementation in the classrooms. Some others, even though there was a wide range of implementation, were shown not to be statistically associated with differences in achievement scores. Each of the variables in these two groups will be dealt with summarily in the presentations, with appropriate notation to their condition of low variability in the classrooms or that their variability was not shown to be related to differing achievement.

Still, a large number of variables was found to be statistically significant in the explanation of score differences. When a variable was shown to be highly significant across the sample, or when components of it differentiated importantly with some groups in the sample, tables are included with the appropriate data. Some of the variables also acted in consort with others, especially those describing the pupil characteristics, and those combination tables are also provided. Secondly, the interactions among several variables were probed to distinguish whether they were affecting achievement independently of the others or whether their major influence was in association with the others. Since these tables, even when reduced to analysis of variance summaries, are complex and voluminous, only those of major contribution to the knowledge about the data will be included in the narrative. Finally, a series of stepwise multiple regressions were carried out to determine the relative impact among the several highly significant variables as guidelines for improving the delivery of the educational services. Again, only those that clearly demonstrated important components are incorporated into this portion of the report. Many of the other tables of all these three types of analyses were relegated to *Volume III: Technical Materials* of this final report; they should be consulted there for the additional details they provide.

Pupil Characteristics

Students come to educational programs with certain characteristics, some of which change over time and instruction and some that do not. In any event, they must be taken into account when the instructional programs are designed if those programs are to be of maximum benefit.

Since in this section of the presentation of the findings, English achievement was the chief concern, the degree of student English fluency or proficiency was expected to exert a powerful influence. Such was the case. Whether a student was classified as fluent, limited, or non-English speaking, differentiated significantly among the T-scores. Furthermore, as shown in Table 22, the difference was sustained across the three subtests and across the three years.

Table 22: Mean English Achievement T-Scores by Student English Fluency

Fluency Category	Reading			Language			Mathematics		
	1978	1979	1980	1978	1979	1980	1978	1979	1980
Fluent	47.3	47.7	49.8	47.7	48.9	50.0	49.7	50.9	51.7
Limited	39.7	41.8	43.0	39.6	41.5	42.4	43.1	46.4	47.0
Non	33.3	35.8	37.4	34.7	35.8	36.0	41.3	43.1	43.3
ALL	43.0	43.7	44.6	43.4	44.0	44.2	46.4	48.0	48.4

Additionally, as will be shown in many of the data tables throughout this section of the report, the degree of English fluency remains as an independent and highly influential variable for the performance of the youngsters, regardless of the influence of the other variables. No other variable in this study contributed as much to score differences.

The second pupil characteristic was a simplified determination of the relative socioeconomic status of the pupils. Low was defined as the inclusion in the free and reduced price lunch programs and above included all those not in those assistance programs. As with much other research into educational achievement, poverty exerted a substantial influence in the present study, although the differences in the means were not as great as for English fluency. Socioeconomic status influenced the three subject areas - reading, language, mathematics - to roughly the same degree. Its effect was pervasive and relatively unchanging across the three years.

Table 23: Mean English Achievement T-Scores by Socioeconomic Status

SES Category	Reading			Language			Mathematics		
	1978	1979	1980	1978	1979	1980	1978	1979	1980
Low	42.1	42.3	43.2	42.5	42.7	42.9	46.0	47.1	47.6
Above	45.8	47.8	49.6	45.9	47.2	47.9	47.8	50.4	51.0
ALL	43.0	43.7	44.6	43.4	44.0	44.2	46.4	48.0	48.4

Few published studies on migrant students were found. One by Jones (13) found lower mean scores for them when compared to non-migrating students and the differences were highly associated with the number of days they attended school. Most special education students were so classified because they had severe learning problems. Utilizing the officially processed data by the districts, all students were classified as special education, migrant, or "regular," although some deficiencies were recognized in that kind of procedure (for details see Chapter IV).

Table 24: Mean English Achievement T-Scores by Student Status

Student Category	Reading			Language			Mathematics		
	1978	1979	1980	1978	1979	1980	1978	1979	1980
Regular	44.2	44.7	45.9	44.8	45.1	45.5	47.5	49.0	49.6
Migrant	39.4	39.2	38.8	39.3	38.6	37.5	43.1	43.8	42.1
Special Education	28.0	32.7	31.9	28.7	35.1	32.6	31.2	35.1	35.6
ALL	43.0	43.7	44.6	43.4	44.0	44.2	46.4	48.0	48.4

Despite some contaminations because of the classification procedures, the means by student status were highly significant. The differences were of about the same magnitude for each of the subtests. Some researchers had found student status to affect mathematics less than the two language arts areas, but in this sample the three were affected about equally. The steady increase in the means across the three years that was consistently present for English fluency and socioeconomic status was true in this analysis only for the regular students. The migrants' scores tended toward a decline but the difference was not likely to be significant. The scores of the special education students showed variable patterns. The followup procedures gave no clues to the nature of the variable special education student scores nor to the decline tendencies of the migrant students.

The migrants, by official definition, were required to meet an income restriction, that is, all migrants should have been within the low socioeconomic status category. That was not totally true for this sample, however, since 58 of the 768 migrants with scores for 1980 had not qualified for free or reduced price lunch. That may have been by their own choice but if so, it was expected to represent an attitude that would still separate them from those that had officially applied and been accepted into the lunch program. The regular and special education students were not expected to fit into a particular category of socioeconomic status.

Table 25: Mean 1980 English Achievement T-Scores by Student Status and Socioeconomic Status

Student Status	Reading		Language		Mathematics	
	Low	Above	Low	Above	Low	Above
Regular	44.5	50.3	44.3	48.5	48.9	51.5
Migrant	38.7	40.4	37.6	36.9	42.0	43.6
Special Ed.	32.1	30.2	32.8	31.6	35.8	34.2
ALL	43.2	49.6	42.9	47.9	47.6	51.0

The mean English achievement scores for the 1980 testing, when separated by student status and socioeconomic status, seen in Table 25, showed large and highly significant differences when the regular students were divided into the low and above socioeconomic status categories. While all subject areas were different at the .001 level of significance, note especially the large score differences for reading - almost twice as much as for language and mathematics.

The migrant students, however, were not differentiated by the socioeconomic status breakdown used in this study. All migrants were essentially poor, whether or not they participated in the free or reduced price lunch program. The posited difference in attitude between those that did and those that did not apply was not sustained by the evidence in this study.

As with nearly every other breakdown in this study, the special education students were not affected by the differences in socioeconomic status. The severity of their learning difficulties was apparently more important as a score determinant than was any other factor.

First language is seldom reported as a research variable in the literature, although in the past year two studies were published dealing with language differences. The newspaper *Hokubei Mainichi* (11), using Northern California data, noted higher achievement scores for speakers of Japanese and attributed these to bilingual education. Carter (3), in his newest book, reported significantly higher mathematics scores for Japanese and Koreans. In the Development Associates study, first language, by itself, showed several important differences. Since the incidence of English fluency was not uniform across the languages, a further analysis, using both characteristics, was performed. The results are detailed for the larger 1980 sample in Table 26. (A total of 95 separate languages was identified in the California study but many of them were represented by only a few students so some were aggregated into geographic groupings; those are reported herein. The listing of each language separately is included in *Volume III* of this final report.)

Table 26: Mean 1980 English Achievement T-Scores by First Language and English Fluency

Language/ Group	Reading			Language			Mathematics		
	Fluent	Limited	Non	Fluent	Limited	Non	Fluent	Limited	Non
Amerindia	54.0	47.8		53.2	45.5		53.9	48.9	
China	51.0	45.6	43.3	55.3	46.9	41.1	57.0	53.6	50.8
MidEast/Africa		47.4	35.8		44.0	34.5		46.4	36.3
Philippines	49.8	48.2	36.2	49.8	44.5	36.4	51.1	49.7	42.3
Indochina	45.1	44.1	36.5		41.9	34.7	52.9	49.1	44.7
India/Pakistan	57.5	48.7	38.5	55.9	46.3	37.0	57.5	48.7	41.7
Pacific Territories	47.2	46.3		50.3	45.2		50.9	49.6	
Japan	56.7	55.1	50.2	57.8	55.9	50.3	56.2	58.2	57.6
Korea	57.7	49.1	42.2		49.2		61.4	56.7	52.0
Spanish	47.2	40.6	34.5	46.6	38.9	32.0	49.8	44.1	38.7
English	51.3	43.2		51.3	44.0		52.1	44.8	
Other Europe	51.8	46.4	42.5	50.1	45.6	40.8	52.7	49.7	45.5
ALL	49.8	43.0	37.4	50.0	42.4	36.0	51.7	47.0	43.3

First, following across the English fluency categories horizontally in Table 26, the powerful influence of that variable is seen to operate regardless of subject area and regardless of language - with the single exception of the Japanese students' mathematics scores, which did not vary by English fluency. Second, examining the vertical columns, that is the mean scores of the first language groups by fluency, shows that these varied from 45.1 to 57.7, a difference of 12.6 points in mean reading scores of fluent English speakers. That difference is not only significant at the .001 level, it is of enormous practical importance. Notice that the mean reading scores for the limited and non-English speaking pupils are much more alike, again except for the Japanese; most of the differences are not statistically significant. Among the fluent English speakers, however, the student means for India/Pakistan, Japan, and Korea were significantly higher than the others.

In language and mathematics, the English fluent speakers of languages from India/Pakistan, Japan, Korea, and China scored significantly higher than the others. As with reading, and excepting the Japanese, the scores for limited and non-English speaking students on the language subtest were not very different. Two additional significant differences occurred in mathematics; both the limited and the non-English fluent Chinese, Japanese, and Koreans scored significantly higher than their counterparts from the other language groups.

As soon as these differences were found, the Development Associates staff members conducted interviews with many test administrators, principals, program coordinators, and teachers, seeking information that might explain the findings. Interestingly, no one was surprised; they already knew that these differences existed. As to why they were different, the ideas were general and perhaps simplistic but they were universal: these children attended school regularly and worked hard. Several also mentioned family influences as important to these students' application to their work. In some of the later analyses, it will also be shown that limited instructional practice differences also existed but not to absolute degrees that would totally explain these differences; they may have been more important, however, than could be demonstrated by the statistical procedures. Despite all of the analyses and the additional information obtained, Development Associates does not feel satisfied that this study has adequately explained why the differences were so great for these groups, especially since by and large the greatest variation occurred among the fluent English speakers in each grouping.

Note also that the means for the fluent English speaking Amerindians are also high. They have not been included in the previous discussion because almost exactly half of the total sample of this study consisted of students in one program that would accept them only if they were performing at a C+ level or above. That fact, of course, introduced a substantially increased mean score probability and that was borne out. Further, their inclusion in a program in which other students also scored high, gave additional evidence of the contamination from this source. The inclusion of Amerindians from all performance levels would apparently have reduced their mean to about that of most of the students in this study.

Three languages with considerable representation in the study were embedded within the language groups: Armenian and Portuguese in Other Europe, and Panjabi in India/Pakistan. These were removed from the groups and studied separately. Their means were essentially the same as those for their group. No significant differences were found.

The earlier discussion of the psychometric properties of the tests and the possibility of their influence on T-scores, made the examination of the scores by grade important to the understanding of the general findings. Table 27 contains the grade by grade means for each subject area broken down by the English fluency rate. The examination of the tests and levels had shown a potential advantage for first and second grades in that they had the possibility of obtaining a higher T-score at the upper score levels. The difficulty factor for those two, especially in the CTBS/S which accounted for 71% of the scores, was also lower, thus increasing the probability of more high T-scores. Whatever the extent of those two influences, and their exact amount is unknown, the scores for this sample were not significantly different for first and second grades. Indeed, the mean for the fluent speakers in the first and second grades closely approximated the mean for all students. The highest mean T-score for the fluent English speakers was at tenth grade; no data on the psychometric properties of the tests would explain the high scores for the tenth graders.

Table 27: Mean 1980 English Achievement T-Scores by Grade and English Fluency

Grade	Reading			Language			Mathematics		
	Fluent	Limited	Non	Fluent	Limited	Non	Fluent	Limited	Non
1	50.1	40.9	37.1	50.5	39.2	35.5	51.2	43.4	42.1
2	51.2	46.3	43.5	51.9	46.2	43.3	53.6	50.0	47.3
3	49.8	42.0	39.0	49.8	41.0	34.1	50.9	46.2	43.1
4	48.9	43.4	34.9	47.8	43.4	36.2	50.3	45.9	42.2
5	49.6	43.5	36.0	50.9	43.8	33.1	52.6	48.8	43.9
6	48.8	41.9	37.1	50.8	42.8	39.3	51.6	47.2	44.0
7	50.9	42.8	37.3	46.9	41.2	34.6	52.8	47.5	44.7
8	48.3	43.2	36.6	49.7	40.6	33.0	51.5	48.4	43.5
9	48.0	43.4	37.5	48.7	43.5	34.2	50.3	47.3	40.0
10	55.2	41.9	35.9	51.1	40.2	32.8	58.4	47.5	43.4
11	49.4	41.8	33.7	47.5	37.8	33.1	48.6	45.2	40.8
12	46.9	42.9	35.0	43.2	38.8		45.6	41.9	40.3
ALL	49.8	43.0	37.4	50.0	42.4	36.0	51.7	47.0	43.3

The limited and non-English speaking second graders had the highest mean T-score for their group in language and mathematics. In most cases, the second grade score was significantly higher than that for first. That was not a function of the psychometric properties' influences since the first grade tests showed theoretical advantages for that group over those in second grade. Further examinations, using other variables to discover any marked variations in composition, showed a small decrease in the proportion of low SES and migrants in the second grade as compared to the first grade. Additionally, more of the first graders were in instructional programs in which "mostly primary language" was taught than was true in the second grade, and very low scores were registered for the students in that type of program. Apparently the combination of these several factors accounted for the unusually large differences between the two grades.

Summarizing the effects of the measured pupil characteristics on the English achievement T-scores, the major findings were:

English fluency: The three fluency categories - fluent, limited, and non-English speaking - differentiated powerfully and consistently among the mean T-scores, and with minor exceptions, were more influential than any of the other characteristics.

Socioeconomic status: Those students classified as low SES scored lower than those above within all the analyses except for migrants and special education students. The differences were statistically significant although not generally to as great a degree as those for English fluency and student status.

Student status: Regular students scored significantly higher than migrants and migrants scored significantly higher than special education students. An important finding about this latter group, special education, was that their scores were not significantly different when examined in interaction with the other variables except for English fluency.

First language: Most of the students in the several languages and language groups scored about alike and the T-scores were affected more by the other pupil characteristics than by first language itself. Some important exceptions to this generality were found: Japanese speaking students scored higher on all the subtests, regardless of English fluency or other characteristics, and the students with languages from China, India/Pakistan, and Korea scored higher on language and mathematics.

Grade: There was no strong evidence that grade was a consistently differentiating variable among the students in this study; some differences existed among the grades but they seemed to have been caused by multiple compositional differences rather than by grade itself.

The findings clearly demonstrated that the pupil characteristics of English fluency, socioeconomic status, and student status were of considerable importance in explaining student scores on the English achievement tests. They must be taken into account when investigating programmatic and instructional influences on achievement. First language of the students showed some differences in test scores with generally higher levels for students who spoke Japanese, a language of China, Korean, or a language from India/Pakistan. Grade was not a pervasive influence on the achievement scores of the students.

Programs

There are strong sentiments within the professional educational communities for and against certain kinds of programs for limited and non-English speaking children. While not all the advocated programs were represented within the sampled classrooms, most of those described in the literature were observed. As was described in Chapter IV, the observed characteristics of the programs did not always fit the labels often applied to programs; consequently, Development Associates adopted a descriptive term for each that specified the major instructional thrust.

The enrollments in the several program types varied a great deal within the sample, (See Chapter IV for the distribution of the entire sample among the several program types.) Further, the students with achievement scores in the English tests also varied, although generally in approximate proportion to the division in the entire sample. Table 28 contains the numbers of students with 1980 English achievement scores in the reading subtest and the means for each program type by the English fluency of the students. The language subtest means were almost exactly like those for reading and the mathematics means were similar in pattern but generally higher.

With few exceptions, the program means were not different when the composition of them was taken into account, together with the variations in thrust (see Table 29), and the often substantially varying instructional practices were utilized in the analyses. Several explanations are required as the program means are examined. Fluent English speaking students with individual learning plans occurred primarily because the ILPs had been written up some time before the student characteristics were gathered and the teachers frequently changed the English fluency rating of pupils; they had progressed from the original assessment. Too, in some schools, even though a student was classified as fluent English speaking, an ILP was prepared if some facet of the performance showed a need for additional assistance, The ILP with tutor program was also an important exception since in two districts, students could be tutored who were performing well; the tutoring program was to help students improve their learning to the point that they could score well in the college entrance examinations. That factor increased the mean of the fluent English speaking students in that program. Those ILP students who spoke one language and were enrolled in a program that included another primary language, also presented an important characteristic that partially accounts for their higher mean; almost

Table 28: Distribution of Students and Program Type Means for the 1980 English Reading Subtest by English Fluency

Program Type*	Fluent		Limited		Non	
	N	Mean	N	Mean	N	Mean
ILP with ESL**	43	51.0	291	43.2	159	40.3
ILP in other BP	138	52.3	77	46.8	30	38.3
ILP with tutor	72	54.0	43	45.3	41	37.2
ILP in regular English	101	48.7	356	44.5	74	35.9
ESL only	50	49.1	88	43.2	35	39.6
Bilingual with ESL	67	50.2	231	42.9	224	38.0
General bilingual	1250	49.8	1115	43.5	409	37.0
Mostly primary language			105	32.1	61	26.2
Regular English with PL	101	48.7	356	44.5	74	35.9
Regular English	293	50.3	66	44.3	21	37.4

* *One program combination, ILP with a primary language class, was represented by so few students with scores that it was eliminated from this table.*

***ILP=individual learning plan; ESL=English as a second language program; BP=bilingual program; PL=primary language class.*

all of them were literate in two and even three language. Too, they and their parents had deliberately chosen the option of the bilingual program, a motivation factor that probably affected their performance.

Regular English, in the contest of the three program combinations included in this study, was defined as the usual monolingual English instruction with English readers, spellers, and the several subject matter texts also in English. The models for English as a second language differ a great deal from the regular English program in that the emphasis is on the acquisition of the English language arts skills rather than on the general progression through the texts; ESL seldom includes much literature. The students in the regular English classes were there because they were fluent English speakers, because their parents had chosen that program instead of the bilingual offerings, and in a few cases, because there was no bilingual program that utilized the students' primary language. The limited and non-English speaking students in the regular English classes generally did not yet have a written ILP because they were quite recent arrivals to the school and had not been processes.

The one program that had very low means in Table 28 was that in which mostly the primary language was taught. Nearly all of the students were in first or second grade. Their English instruction varied from 35 to 50 minutes per day, thus their instruction in English reading had not progressed very far.

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A further specification within programs was the way the primary language was used within the bilingual programs: facilitation, preview/review, simultaneous/concurrent, alternate language within the day, alternate languages by day/unit. Although the means by these variables appeared substantial when viewed by themselves, Table 29 shows that when they were viewed by the English fluency of the pupils, the effects were not uniform. Facilitation and alternate languages by day/unit appeared generally weaker than the others but that was not the case for all the fluency levels within the language and mathematics subtests.

Table 29: Mean 1980 English Achievement T-Scores by Way Primary Language Was Used and English Fluency

Use of Primary Language	Reading			Language			Mathematics		
	Fluent	Limited	Non	Fluent	Limited	Non	Fluent	Limited	Non
Facilitation	44.8	41.0	38.2	44.4	39.0	36.3	52.4	45.3	44.1
Preview/review	51.5	46.4	43.5	49.1	47.3	40.0	52.0	44.2	47.7
Concurrent*	49.2	41.7	38.3	49.3	43.2	37.3	51.3	44.6	44.8
Alternate in day	50.3	43.5	38.5	52.2	44.1	38.2	52.1	47.9	45.0
Alternate, other	46.9	40.7	29.9	47.5	41.4	33.4	50.5	45.1	36.3

Combined simultaneous and concurrent category.

One other variable, the sequence in which the student learned reading - primary language first, English first, or both at the same time - was partially a program variable and partially a result of experience in another country. Its basic effects are presented in this program section and some interactions between it and the instructional practices will be presented with those components.

Table 30: Mean 1980 English Achievement T-Scores by Sequence of Learning Reading and English Fluency

Reading Sequence	Reading			Language			Mathematics		
	Fluent	Limited	Non	Fluent	Limited	Non	Fluent	Limited	Non
Primary language first	48.3	40.5	35.1	49.3	39.4	33.6	51.2	45.3	40.7
English first	50.2	45.4	42.0	49.4	46.8	38.9	51.7	49.5	44.6
Both at same time	51.1	45.8	40.6	52.1	47.4	40.2	52.4	49.7	47.9

The data in Table 30 show that the effects of the reading sequence were not uniform across the fluency categories. It made no difference to fluent English speakers in which order they learned the reading skills. What could not be determined from this research was whether they had been fluent at the time reading was first taught or whether they had become fluent since that time. No doubt some of both influences existed within the fluent English speaking sample. Limited and non-English speaking students scored significantly lower if their reading sequence began by learning the primary language reading first. There was, without doubt, some mixing of cause and effect between the two variables. Nevertheless, the English first and both at the same time categories were alike and significantly higher than when primary language reading was learned first, when limited and non-English speakers were calculated.

In overview, the program variables were not found to be persistent influences on the English achievement scores. They had little effect on the scores of the fluent English speakers; some differences were found among the scores of the limited and non-English speaking students. As a general statement, and consistent with most studies of implementation (7,8), the impact of differences in implementation within each program was apparently as great or greater than the differences among programs.

Instructional Practices

When instructional programs are implemented in many schools and classrooms, they have seldom been shown to improve the achievement of the pupils, no matter how carefully they were designed. The problem resides primarily in varying implementation; teachers put selected portions into practice and they practice those portions at differing degrees of intensity. Two large scale reviews of implementation, Fullan & Pomfret (8) and Farrar, Desanctis & Cohen (7), demonstrated the wide variations that effectively "redesigned" the programs. The data in the previous section on the programs essentially showed that to be the case among those installed in the sample schools.

The research design for the California study, therefore, attempted to alleviate the problem by carefully measuring those instructional practices and approaches that other research had found to be important or that the theorists proposed as necessary in providing services to limited and non-English speaking children. In a combination of measured incidence and timed sequences, coupled with detailed descriptions, Development Associates obtained data on a large number of variables, only a few of which differentiated among or were associated with the English achievement tests scores of the students. Multiple analyses were performed to assure that no quality of a variable was missed and to discover any possible interactions among the measures. For the sake of precision in the presentations, some complicated tables will be included. Where at all possible, summary information will be provided, eliminating from this narrative report those statistical data that contribute little to the understanding of the results. Much of the statistical material is included in *Volume III* of this report for those who are interested in the details.

Direction of Instruction

The unique utilization of a direction of the instruction - individualized, small group, large group - was not common among the classrooms in this study. Much more common were combinations of two or all three of them. The employment of the different directions of the instruction had no significant effect on the fluent English speaking pupils. They scored about the same regardless of the pupil groupings. Only one of the directions was statistically different from the others for the limited and non-English speaking students - the means for individualized instruction as the sole direction of instruction were 39.9 and 37.2 respectively, and those were six or more points below the means of the other directions and combinations. The differences were highly significant. Broussard (2) and Stallings (19) reported that same effect for individualization. Apparently dealing with each child individually reduces the total learning time of the class as a whole. The combination of individual instruction with the other pupil groupings did not produce this same effect.

Instructor/Pupil Interaction

The interaction in the classes was determined by the number of pupils directly and actively participating in the instruction as denoted by verbal or other behavioral indicators. The exchanges were measured over six or more ten minute observation periods to allow for the varied tasks and for the teacher and/or the aide activities. The procedures were similar to those utilized by Amidon & Flanders (1) and by Stallings (19) but reduced in the incidences counted in each timed period. Subsequently, the counts were aggregated into broader categories of interaction: low, medium, and high. The amount of difference in the T-scores for each of the categories was statistically significant but those differences did not exceed three points, small enough that other influences impinging on the instruction at the same time might be jointly affecting the scores. The publications of the previously cited authors reported significant differences by the rate of interaction, but the variation was greater than in the present study. Interaction was one of the few instructional variables that affected the pupil characteristic groupings about alike; it differentiated among the mean T-scores by English fluency, socioeconomic status, and the regular and migrant students (but not those in special education).

Structure of the Language Presentations

The proportion of structured presentation of language, whether in one language or two, to the casual usage was measured in alternate time periods. The judgment of the expert observers on the adequacy of the structuring for the students in the class was an important part of the study. Cohen & Rodriguez (6) employed similar procedures but since they had greater control of the implementation, their measurement of the language structure was also more controlled. The proportions of structured to casual varied greatly in the many classrooms, from nearly all structured to nearly all casual. The high, medium, and low groupings of structure were significantly associated with differences in the T-scores. Structure did not, however, differ for the fluent English speaking children, but its effects were substantial for both limited and non-English speakers, producing differences of about six points each between high and medium, and between medium and low structuring. Similar differences were found for low and above socioeconomic groupings and for the regular and migrant status groups. Structure was not significantly different for special education students.

A corollary measure of structure isolated the factor of mixing two languages indiscriminately in the same sentence. The practice was common in some Spanish/English programs but it was also found in a few using Tagalog and Cantonese. Explanations, synonyms, and occasional lapses were not counted as mixing languages. Although the overall effect of mixing languages was significant, it was not very large. As shown in Table 31 however, the effects varied considerably by the English fluency categories and in the different subtests of the English achievement tests.

Table 31: Mean 1980 English Achievement T-Scores by Language Mixing and English Fluency

English Fluency	Reading		Language		Mathematics	
	No	Yes	No	Yes	No	Yes
Fluent	50.2	48.3	50.6	47.9	51.9	51.2
Limited	42.8	40.3	43.6	39.3	47.3	45.6
Non	38.3	35.6	37.4	34.1	44.6	40.2
ALL	45.4	42.5	45.8	41.3	49.2	46.8

The differences were greater for the language subtest and were more consistent. Non-English speakers were also affected significantly in every subtest.

Analyses of variance, given in later tables, showed language structure to remain significant even when its effects were adjusted for the influences of other variables; the effect remained across all three subtests. Language mixing, however, was found to be significant only for the language subtest when adjustments for the other variables were made. The differences for the non-English speaking children also remained significant. The means were different for low and above socioeconomic levels for the language subtest; similarly, the regular status students' mean T-score was significantly higher than that for the migrant students when divided by the two language mixing categories. Special education students were not affected by language mixing.

Instructor Language Proficiency

The English and primary language fluency, when two languages were used, were measured separately and for teachers and aides when these latter were present. Neither the English nor the primary language fluency of the aides was associated with differences in mean T-scores on the English achievement tests. As would be expected, the teacher primary language proficiency did not affect the means on the English achievement tests.

Table 32: Mean 1980 English Achievement T-Scores by Teacher English Proficiency and Pupil English Fluency

Pupil English Fluency	Reading		Language		Mathematics	
	Medium	High	Medium	High	Medium	High
Fluent	46.5	49.7	50.0	50.8	51.1	51.7
Limited	40.0	43.4	38.1	42.4	43.9	46.9
Non	36.1	39.6	32.0	36.5	39.2	43.4
ALL	44.6	46.7	44.1	46.2	45.0	48.4

Although there were some low proficiency ratings on teacher English, when subdivided into the pupil English fluency categories, the number with T-scores was too low for confidence. The remaining medium and high categories of teacher English proficiency showed significantly different T-score means for all the pupil fluency ratings for the reading subtest. They were not different for the fluent English speaking students for the language and mathematics subtests. As with most of the other variables, there were significant differences for the limited and non-English speaking pupils in all the subtests. Teacher English proficiency was associated with statistical differences, especially affecting the limited and non-English speaking pupils.

When studied via the two socioeconomic levels, the teachers' English proficiency was related to score differences in all three subtests. The migrant and regular students' scores were also found to be significantly different when examined by teacher English proficiency. Special education students' T-scores were not different by this measure.

Language Modeling Activities

Three sets of language modeling were measured - oral/aural, reading, and writing. They were counted separately for English and the primary language when both of them were utilized in the instruction. The appropriateness of the language modeling was also assessed in relation to the fluency of the pupils in the classroom.

The primary language modeling activities were not associated with the English achievement test scores. Initially, some inverse proportions were found between the number of primary language activities and the English test scores. When the primary language class measurements and those counted in the "most primary language" programs were eliminated from the analyses, the reversed effects disappeared.

The English achievement test T-scores were also not differentiated by the English oral/aural activity counts. Since the measurements were taken in late spring, most of the teachers had reduced the oral/aural intensity and increased the reading and writing work with the students. That reduction left only small differences among the oral/aural counts for most of the classrooms, except for some newly formed classes for recent arrivals to the United States. The numbers of students in this latter group were small and their oral/aural activities did not influence the scores sufficiently to change the results.

Table 33: Mean 1980 English Achievement T-Scores by English Reading Activities and Pupil English Fluency

Pupil English Fluency	Reading Subtest			Language Subtest			Mathematics Subtest		
	Low	Med.	High	Low	Med.	High	Low	Med.	High
Fluent	48.2	50.2	50.6	48.2	50.7	51.8	50.4	51.2	52.5
Limited	42.1	42.8	44.1	41.2	42.9	47.2	46.5	46.8	47.2
Non	37.1	38.3	40.3	35.5	37.1	40.1	42.5	43.3	45.8

Although the analyses showed the fluent English speaking students' scores to be significantly different by low, medium, and high numbers of English reading activities, the point differences were not great enough to assess them as important. Similarly, the low amount of the difference, even though significant, for the limited and the non-English speaking pupils in the reading and mathematics subtests were not assessed as instructionally important. The difference for these two fluency groups was both significant and large for the language subtest. That finding coincided with those of Hernandez (10).

Language writing activities are seen by most theorists as a much higher order of language arts development than the reading exercises alone. Cohen & Rodriguez (6) found highly significant differences among the scores for limited and non-English speaking students when controlled for the number of structured writing activities used in the classes.

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Table 34: Mean 1980 English Achievement T-Scores by English Writing and Pupil English Fluency

Pupil English Fluency	Reading Subtest			Language Subtest			Mathematics Subtest		
	Low	Med.	High	Low	Med.	High	Low	Med.	High
Fluent	48.5	49.7	53.5	48.3	50.5	55.3	50.6	52.1	55.8
Limited	41.6	43.2	49.2	40.4	44.0	50.3	46.2	37.5	50.1
Non	36.8	39.9	40.1	36.3	38.7	39.6	42.8	45.4	48.2

The T-score differences were highly significant for all three subtests and for the relative amount of English writing activities. Contrary to some of the analyses of the other variables, the fluent English speaking youngsters were affected about as much as those that were limited or non-English speaking. This variable gave the greatest differences among those examined to this point.

Table 35: ANOVA Summary Table for the 1980 Reading Subtest of the English Achievement Test Assessing the Relative Influence of English Reading, English Writing, Language Structure

Source of Variation	Sum of Squares	Mean Square	F	Significance of F
Covariates	67,077.5	33,538.8	366.2	.001
English Fluency*	66,392.7	66,392.7	724.9	.001
Learning Time*	782.2	782.2	8.5	.004
Main Effects	7,067.5	1,177.9	12.9	.001
English Reading	1,811.2	905.6	9.9	.001
English Writing	2,374.1	1,187.1	13.0	.001
Language Structure	1,641.6	820.8	9.0	.001
Explained	81,737.8	10,217.2	111.6	.001

**The scores were controlled by two variables in this analysis: pupil English fluency and the percentage of learning time measured in the observations. The latter variable will be dealt with separately in a later section.*

When analyses of variance* were performed, all three of the language activity variables remained highly significant even when the effects for two other powerful variables were used in the adjustments: pupil English fluency, seen as a significant variable in almost all the analyses, and measured learning time, introduced

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**The regression approach was used so that all effects, including main effects, covariate effects, and any interaction effects were assessed simultaneously as in multiple regression.*

to control for differing amounts of exposure to the teaching/learning process. The significance was maintained for the language and mathematics subtests but the levels of significance were different for the English reading activities in the mathematics subtest, calculated at .01 rather than the .001 for the others. Interactions among these variables were minimal; they essentially acted independently in differentiating among the T-scores of the English achievement subtests.

The measure entitled English modeling appropriateness was significantly associated with differences in the language subtest for limited and non-English speaking students. The point separations were not large. As will be shown in later analysis presentations, this variable remained significant but it contributed only a small portion of the effects on the T-scores.

Language Reading Sequence

Theorists have advocated teaching reading in the primary language first for limited and non-English speaking students. Some early research reported some advantages to that approach. Lambert & Tucker (15) found some differences but they varied according to whether the minority or majority language was taught first.

The 1980 subtest means by the reading sequence and separated by pupil English fluency were presented in Table 30 of this chapter. The differences were statistically significant for all three subtests and by differing pupil English fluency. The reading sequence variable is presented again at this point to integrate its influence with that of some of the other variables discussed since then.

Table 36: ANOVA Summary Table for the 1980 Language Subtest of the English Achievement Test for the Reading Sequence, English Modeling, and Mixing Languages

Source of Variation	Sum of Squares	Mean Square	F	Significance of F
Covariates	63961.4	31980.7	329.9	.001
English Fluency	58565.5	58565.5	604.1	.001
Socioeconomics	5395.9	5395.9	55.7	.001
Main Effects	14420.0	2884.0	29.7	.001
Reading Sequence	11707.5	5853.8	60.4	.001
English Modeling	1925.4	962.7	9.9	.001
Mixing Languages	787.1	787.1	8.1	.005
2-Way Interactions	2130.5	266.3	2.7	.005
RdgSeq/EngModel	1158.0	289.5	3.0	.05
RdgSeq/MixLang	449.8	224.9	2.3	ns
EngModel/MixLang	710.8	355.4	3.7	.05

The analysis of variance, adjusting for the effects of the variables discussed so far, showed the reading sequence to remain significant for all three subtests: .001 for language and mathematics, .005

for the reading subtest. (The "mostly primary language" program students were excluded from this analysis.) English modeling and mixing languages also remained as significant effects. The interactions were also significant, although at a lesser level, except for the combination of the reading sequence with mixing languages. The effects of the latter combination were diminished primarily from the adjustment for pupil English fluence.

Analyses of variance were also performed with the introduction of student status (regular, migrant, special education) as both a covariate and as a main effect. The results were not conclusive. The coincidence of low socioeconomic level and migrant status was a part of the reduction of significance. Too, in the case of almost all the previous analyses, special education students were affected little or none at all by the instructional variables. Their inclusion also diminished the possible effects on achievement.

Learning Time

In addition to the instructor/pupil interaction, discussed previously, two other measures of exposure to learning were conducted: class management and the proportion of time spent in learning as a function of non-learning activities. The Amidon & Flanders (1) and the Loret et al (16) studies had found significant differences for class management measures. In the present study, it was not associated with T-score differences; although the observations appeared to have been done uniformly, so many factors were involved that some inexact measurement may have been introduced.

Learning time was clocked very accurately and the results of the Stallings (19) study had shown distinct advantages for the high efficiency classrooms. The examination of the means in the California samples showed some difference but they were not uniform across the three subtests. Table 35 presented earlier in the achievement discussion, contained learning time as a covariate with several other variables in the analyses of the reading subtest. It was significant but at a somewhat reduced level. The analyses on the language subtest showed no significance for learning time. On mathematics, it was also significant but, as with reading, at a lower level ($p=.01$). The introduction of learning time as a main effect gave similar results: no effect on the language subtest and reduced significance for reading and mathematics.

The Contributions to English Achievement

The relatively large number of significant variables in this study made it difficult to assess their separate influences. To aid in the comprehension of their effects, stepwise multiple regressions were calculated. In the first set of three analyses, one for each of the subtests, all the students in the sample with 1980 scores for the subtest and who had been assessed for the individual variables, were included.

Table 37: Contributions* of the Significant Variables to the 1980 English Achievement Scores: All Students

Variable	Reading %	Language %	Mathematics %
English fluency	19.2	21.1	11.9
Socioeconomic status	3.9	4.3	4.2
First language	3.3	5.4	5.9
Reading sequence	2.7	8.2	2.9
Mixing languages	2.4	6.2	2.2
Teacher English	1.9	4.1	0.8
Learning time	0.9	3.0	0.8
English modeling	0.7	2.8	0.6
Explained	35.0	55.1	29.3

**Derived from the R square change in the regression. The variables are listed in the order of their effects on the reading subtest as produced in the stepwise approach to the regression.*

Attention is immediately called to the relatively low amount of the explained effects from the eight variables in the equation on the reading and mathematics subtest scores. The 35% for reading and the 29.3% for mathematics, however, when compared to the 55.1% for the language subtest, are understandable from the separate analyses preceding the regression. In general the fluent English speaking children's scores were affected little or none by most of the variables. Differential effects were found for many of the other variables depending on the composition of the group included in the analyses. The much higher explained effects of the language subtest were also anticipated since it was most consistently involved in highly significant differences and with quite large point spreads.

The focus of this study, of course, was the limited and non-English speaking students. A second set of stepwise multiple regressions was calculated that excluded the fluent English speaking pupils from the analyses. Those results are summarized in Table 38.

As would be expected from the earlier analyses, the exclusion of the English fluent pupils from the regression increased the effect of English fluency. As with the all pupil analysis, the reading and language subtest scores were affected much more by English fluency than was the mathematics mean. The other two pupil characteristics, first language and socioeconomic status, remained strong and in about the same relationship to each other.

Table 38: Contributions* of the Significant Variables to the 1980 English Achievement Scores: Limited and Non-English Speaking Students Only

Variable	Reading %	Language %	Mathematics %
English fluency	21.3	22.4	13.4
First language	8.2	8.2	9.8
Reading sequence	7.8	7.9	6.4
Socioeconomic status	7.6	7.4	4.3
Mixing languages	7.4	7.9	5.2
Teacher English	4.3	5.2	1.3
English modeling	4.1	4.6	1.2
Learning time	2.6	3.0	2.1
Explained	63.3	66.6	43.7

**Derived from the R square change in the regression. The variables are listed in the order of their effects on the reading subtest as produced in the stepwise approach to the regression.*

The most important changes, from a programmatic standpoint, were the increases of the effects of the instructional practice measures. Little change was noted in their relative positions within the effects, but all of them increased dramatically for reading, and except for learning time which stayed about the same, for the language subtest. For mathematics, only two changes for consequence were found: the reading sequence and mixing languages. The proportion of the effects attributable to the instructional measures as opposed to the relatively unchangeable pupil characteristics, rose substantially.

English/Spanish Comparisons

Few Spanish CTBS/S scores were collected for 1978 or 1979 and they rarely coincided with the equivalent English scores. In 1980, the year when the most English and Spanish scores were obtained, 241 students had scores for both the English and Spanish reading subtests. The Spanish CTBS/S provides no language subtest.

Because of the small numbers, few analyses could be performed with confidence. An important one that was accomplished was the Pearson R correlation, a measure that indicates how similar the distributions of the two sets of scores were (1.0 would be an absolute match). The calculated correlation for the Spanish and English reading score patterns was .82, showing a strong relationship between the two. The correlation for the mathematics subtest, Spanish and English, was .91, a very high relationship.

The two sets of scores from this very reduced subsample of the students were very much alike. No measure of Spanish fluency was included in the study, and that limited what could be deduced from the statistics. The means for the entire group were: Spanish reading=48.7; English reading for this group=46.4; Spanish mathematics=51.1; English mathematics=50.7. The differences in those means were not significant. The means were all numerically higher than for the general populations with English and Spanish scores, indicating that perhaps some selection in which students took the two tests may have been exercised, although no special pattern of selection could be discerned from scanning the characteristics of the students.

Spanish Achievement

As with the subsample for the English/Spanish score comparisons, the number of students with any Spanish scores in 1978 and 1979 was very reduced. They were insufficient for statistical comparisons. The 1232 with the Spanish reading and/or the Spanish mathematics scores in 1980 represented nearly ten times the number recorded for either of the other years. Only six classes had a high proportion of Spanish test scores: in all the others the number that had taken the test in 1980 varied from three to 18. A high proportion of the students had reading scores, 1204, but only 403 had mathematics scores. Because of these small totals, the divisions by some of the variables left very small numbers. To aid in the appraisal of the worth of some of the statistics, the N sizes are indicated; those cells with fewer than ten have been eliminated from the tables.

Pupil Characteristics

Eighty-six percent of the students in this subsample spoke Spanish as the first language and many of those students that listed English as their first language were Mexican Americans. (See Table 39, a composite of the pupil characteristic data with both the Ns and the means included.) The "other" category in the table included many languages, but 20 of the students spoke Portuguese and 18 spoke one of the Filipino languages. An important point for the "other" group was that they were all trilingual. The means for this characteristic are, of course, quite different. No inferences can be drawn from those differences, however, since both the "other" and the English speaking students were carefully selected; only those that showed a high degree of Spanish skills were allowed, or encouraged, to take the test.

The English fluent students were, in fact, highly bilingual, as the significantly higher mean for the reading test demonstrated. The limited English speaking student mean T-score was also significantly higher than the non-English speakers for the reading subtest. In mathematics, however, only the fluent English speaking students' mean was significantly different, higher than the limited and non-English speakers' mean; the mathematics scores for these two latter groups were not statistically different.

Table 39: Mean 1980 Spanish Achievement T-Scores by Pupil Characteristics

Characteristics Categories	Reading N	Reading Mean	Mathematics N	Mathematics Mean
Spanish	1,059	44.0	376	42.6
English	86	53.0	14	52.9
Other languages	59	50.5	13	53.9
English fluent	339	51.9	59	49.8
Limited English	454	44.1	224	42.5
Non-English speaking	411	40.1	120	41.7
SES: Low	894	42.9	310	42.0
SES: above	310	50.9	93	47.9
Regular student	1,029	46.0	334	44.0
Migrant	154	39.9	62	40.6
Special education	21	29.7	7	

As with the English acievement, socioeconomic status differentiated statistically between the means and the difference was substantial, with the low SES mean eight points below the above group. The students designated as regular, migrant, and special education were all statistically different and the point spreads were relatively large. These relationships held true, generally, for both the reading and the mathematics subtests.

Grade, grade by English fluency, grade by socioeconomic status, and grade by student status showed no differences that could be termed important; the few that appeared somewhat large were characterized by large numbers of students compared to very small numbers, thus the information provided was doubtful.

In summary, the pupil characteristics for the 1980 Spanish achievement test students showed almost exactly the same pattern as that for the English achievement. English fluency, socioeconomic status, and student status categories varied in almost exactly the same way in both languages. No conclusions could be drawn from the means by first language nor by grade; they varied somewhat, but the differences could be associated with other factors.

Program Variables

More than half the students with scores in Spanish reading and mathematics were from the bilingual program, and large numbers of the remainder were enrolled in the primary language classes or were speakers of other languages enrolled in a Spanish bilingual program. Thus their exposure to Spanish instruction was at least potentially high. When the students in the programs were also examined by the English fluency, socioeconomic status, and student status, many of the numbers became too small for meaningful comparison. The differences that appeared to have occurred by observed program alone, disappeared when they were separated by the other characteristics.

For the Spanish scores, only three of the categories of Spanish usage occurred: facilitation, simultaneous/concurrent, and alternate languages within a day. Some differences appeared but when the pupil characteristics of English fluency, socioeconomic status, and student status were controlled, the means were not statistically different.

The partial program variable of reading sequence, when examined by itself, showed learning the primary language first to be significantly lower than English first or both at the same time. These latter sequences were reversed in their effects on the two subtests: learning both languages at the same time was higher for reading but English first was higher for mathematics. A four point difference separated them in each case. Breaking the reading sequence down by pupil English fluency produced no worthwhile results since only two students in the primary reading first group were fluent English speakers. Similarly, the imbalance was so pronounced when reading sequence was broken down by student status that the results appeared meaningless.

Reading sequence by socioeconomic status was better distributed. Table 40 contains the Ns and means for ease of appraisal. The results were much as the separate analyses had indicated: primary reading first produced lower means in both the socioeconomic categories for the reading subtests; logically, learning reading in both languages at the same time gave higher means for the Spanish reading subtest than did learning English reading first.

Table 40: Mean 1980 Spanish Achievement T-Scores by Reading Sequence and Socioeconomic Status

Reading Sequence	Reading				Mathematics			
	Low		Above		Low		Above	
	N	Mean	N	Mean	N	Mean	N	Mean
Primary reading first	550	40.8	126	48.3	254	41.3	51	47.0
English reading first	70	45.2	19	51.3	16	46.9	15	50.2
Both at the same time	219	48.4	130	54.1	22	43.0	16	50.9

The mathematics scores for the Spanish mathematics subtest were lower when the primary reading had been taught first, but the score differences were probably too small for definite conclusions. The numbers of students involved were quite small in the categories of English reading first and both at the same time when divided by low and above socioeconomic status. Thus, the significant differences in the means, with the advantage for English reading first and both at the same time, are of dubious meaning.

Conclusions about the program variables' effects on the Spanish achievement T-score means were few. Most of them could not be associated with differences. The reading sequence was significantly different with learning primary reading substantially lower for both the low and above socioeconomic status categories, and with English first significantly lower than learning both at the same time. The mathematics differences were uneven and the lower Ns reduced the credibility in the results.

Instructional Practices

As would be expected from the previous discussions of the numbers of students involved when the variables were broken down into the several categories, many of the comparisons were too imbalanced, or whole categories were missing, and thus little could be learned from them. The variables falling into this category include direction of instruction, structure of the language presentations, and classroom management. In addition, all of the measures on the teaching of English were either discarded because of the Ns or they were not shown to be associated with the Spanish achievement T-scores.

Teacher and aide Spanish fluency was very high in all the cases in this subsample, and so no analyses were possible on that variable. Curiously, too, the number of Spanish writing activities observed in the classes was quite high, obviating the opportunity to learn about the effects of that variable on Spanish achievement.

Two exposures to learning variables had sufficient numbers of students in the medium and high categories that they could be considered: instructor/pupil interaction and clocked learning time. High interaction and high learning time were signficantly greater when the means were examined than were the medium classifications. The numerical difference for learning time, however, was not large, amounting to less than three points in each of the Spanish achievement subtests.

The number of Spanish reading activities was more evenly distributed across the low, medium, and high categorizations. The differences in the mean T-scores were significant for each comparison for the reading subtests, building from low activities to high. Dividing these by socioeconomic status did not change the expected differences that the two variables separately would anticipate for the Spanish reading subtest.

Table 41: Mean 1980 Spanish Achievement T-Scores by Primary Reading Activities

Reading Activities	Reading		Mathematics	
	N	Mean	N	Mean
Low	439	41.4	159	43.6
Medium	354	45.1	151	43.5
High	299	50.0	38	47.7

Low and medium numbers of Spanish reading activities did not produce differences in the Spanish mathematics subtest; the means were alike. A high number of Spanish reading activities was associated with a higher mean, significantly so, than the other two categories. Breakdowns by socioeconomic status gave inconclusive results for the mathematics subtest when that variable was interrelated with the number of Spanish reading activities.

Table 42: ANOVA Summary Table for Socioeconomic Status, English Fluency, Interaction, Reading Sequence, and Primary Reading Activities: 1980 Spanish Reading Subtest

Source of Variation	Sum of Squares	Mean Square	F	Significance of F
Covariates	9,596.5	4,798.2	53.9	.001
Socioeconomic status	6,934.4	6,034.4	67.7	.001
English fluency	1,857.2	1,847.2	20.7	.001
Main Effects	6,324.7	1,054.1	11.8	.001
Interaction	255.1	127.6	1.4	ns
Reading sequence	1,444.1	722.0	8.1	.001
Reading activities	1,690.6	845.3	9.5	.001

The analysis of variance procedures confirmed the significance of the variables shown in the earlier analyses. The pupil characteristics of socioeconomic status and English fluency remained highly significant and powerful influences on the Spanish reading subtest. The reading sequence and primary reading activities, also predictable from the simpler analyses, were sustained as significant influences. Interaction, however, was not significant when the effects of the other variables were adjusted in the calculations. Learning time was attempted as a variable in the ANOVA but was dropped because of empty cells. Additionally, no interactions among the variables in Table 42 were calculated due to empty cells or a singular matrix.

The Spanish mathematics subtest means could not be examined via an analysis of variance because of the vacant and small cells for some of the matrices. In any event, the previous analyses on the mathematics subtest indicated that little else could be learned from such a statistical procedure in this case.

The stepwise multiple regression on the 1980 Spanish reading subtest mean T-scores showed very similar results to that performed for the English, with the exception that few variables were involved. The pupil characteristics of socioeconomic status and English fluency combined for 24.1% of the effects, reading sequence accounted for 8.1%, and the primary reading activities were calculated at 5.9% (derived from the R square change). The amount of the explained variance was not very high, summing to only 38.1%.

Summary and Recommendations

One of the major tasks of the study of educational services to the limited and non-English speaking students in California was the identification of instructional practices that brought about improvement in learning. The intensive search of the literature produced little evidence of how that improvement could be accomplished. Structured observations in a large sample of classrooms showed widely varying implementation of the programs. The determination of the pupil characteristics demonstrated that great care must be taken to check the reported data; in many cases, the best recourse is to obtain the information directly from the student.

The samples for the study were chosen in a combination of purposive and random procedures to ensure as representative a group of students and programs as possible. The general sample attained that goal to a high degree. However, the use of the achievement test scores from the district administered examinations created a subset of the sample that could not be controlled by the Development Associates researchers, except to exert every possible effort to find the scores. The entire study sample of 10,121 students was consequently reduced to a maximum of 6,377 students on any English achievement subtest for any of the three years - 1978, 1979, 1980 - in which the student data were tracked. The

Spanish achievement test subsample was usable only in 1980 and the highest number with scores was 1,232. This circumstance constituted some limitations to the conclusions that could be drawn from the results of the study.

Many different English achievement tests were administered in the districts and those were not always employed for the correct grade; careful documentation of the test, form, and level, by grade, was necessary for each individual student. Utilizing a common formula for transforming the raw scores to T-scores brought about the recognition of another limitation: the psychometic properties of some of the tests, forms, and levels present some severe deficiencies Comparisons across levels, and thus from one grade to the next, are a dubious procedure, since the standardized scores vary considerably and the difficulty levels among them pose serious comparison problems. The study analyses, then, were confined to one year examinations, causing the loss of the knowledge about gains over time, a particularly interesting statistic for limited and non-English speaking children that are acquiring more English as they progress through school.

The problems with the tests themselves, with the collection of data from district records, and with the widely varying test administration policies of districts and schools led to important recommendations to evaluators and other researchers:

> *Extreme caution must be taken when using locally administered test scores since there are many inaccuracies in the data reporting; only checking the classes and even the individual students assures correct scores and proper identification of the tests, forms, and levels.*
>
> *The preliminary examinations of the psychometric properties of the tests, forms, and levels by grade showed some limitations to the analyses that can be performed, especially comparisons across levels and grades; revised procedures, possibly obtaining weighted scores by item difficulty, may alleviate the problem.*

The present study for the Office of the Legislative Analyst was fortunate that the uncontrolled subsamples created from the existence of achievement scores showed distribution patterns that did not differ markedly from the characteristics of the entire sample. Smaller numbers, however, such as was the case for the Spanish achievement scores, occasioned serious limitations to the analyses that could be performed and the conclusions that emanated from the data.

Five pupil characteristics were controlled in this research: first language. English fluency, socioeconomic status, student status (regular, migrant, special education), and grade. Differences in the mean T-scores, when these characteristics were controlled, were highly significant in most of the analyses and for all but grade. Those differences were sustained in analyses of variance and their calculated contributions to the variations from the multiple regression procedures were greater than the program or instructional variables. Those findings prompt another recommendation to evaluators and other researchers attempting to determine the effects of instructional programs:

> *Examinations of differences in achievement scores that do not control for the characteristics of the pupils, contain gross exaggerations of the effects of the instruction if the entire differences are attributed to that factor.*

Just as importantly, some instructional effects may be obscured when no differences appear, since some pupil characteristics tend to equalize scores when the instruction affects them differentially.

The major findings of this study that were associated with the pupil characteristics were:

> English fluency, that is, the three general categories of fluent, limited, and non-English speaking, was the most powerful influence on achievement scores.
>
> *Concentrated efforts to increase the English fluency of the students, if successful, will increase learning as measured by standardized achievement tests. Those efforts should not exclude programs that aid in the acquisition of another language; the evidence from this study was that bilingual and trilingual students scored as well or better than monolingual English speakers.*
>
> Low socioeconomic status students scored significantly lower than those classified as higher and the differences persisted across most of the other variables.
>
> *Efforts to alleviate the effects of poverty should be studied, revised and/or continued; poverty effects on student learning in this study were severe.*
>
> Special education students, for the most part, have severe learning difficulties; that is why they are in the program. The large and significant differences between regular and migrant students should be susceptible to amelioration, at least that portion that was in addition to poverty.
>
> *This study did not investigate the attendance of the migrants as compared to the other students; if, as is frequently alleged, their attendance is substantially lower, ways to increase their exposure to learning should be explored.*

The existence of the differences in pupil characteristics should not be accepted fatalistically; some of the findings from the investigations into the effects of the instructional variables showed some practices that increased learning in spite of adverse characteristics.

Four program variables were included in the study: declared program type, observed program, type of primary language usage, and the reading sequence. The first, declared program, was of little utility in the study since the reality in the classrooms had little relationship to the program labels. The observed programs, with one exception, were not associated with differences in achievement scores; implementation differences among the classrooms within any one program were greater than the differences between programs. The one exception was that type of program in which mostly primary language was taught; the students scored significantly lower than did the students in the other programs. A partial program variable, the sequence of teaching reading (primary language first, English first, or both at the same time) was also associated with differing achievement scores. Teaching primary language reading first resulted in significantly lower reading and language subtest scores in English but had much less effect on the mathematics scores. The findings, or lack of them, in relation to the program variables suggested that:

> The students in the bilingual programs and in those arrangements through which a primary language class was taught, when implementation was appropriately carried out, scored as well or better on the English achievement tests than did those that were in monolingual English education. And the students learning two languages had the added advantage of improving their skills in the other language.
>
> *There was evidence from several of the analyses that speaking two or more languages had less effect on achievement scores than when the students were biliterate or triliterate. The use of primary language facilitation, then, needs re-examination.*
>
> On the other hand, the students who for whatever reason were enrolled in monolingual English education, scored as well on the standardized tests when the implementation of the instruction was appropriate.
>
> *The major differences in achievement emanated not from the type of program, with one exception, but from the instruction given in the classrooms.*

> Whether students learned primary language reading first in this country or in another, they scored significantly lower in the English achievement tests. That difference appeared to persist over several years; similarly, the classes in which little English was being taught were characterized by very low achievement scores and thus appeared to be contributing to the first problem. Students who learned reading in both languages at the same time scored as well or better than those who learned English reading first. Again, however, the quality of the instruction was a differentiating factor in both English first and both at the same time; it did not appear to influence the scores for those students in the programs where mostly the primary language was taught.
>
> *If there is transfer of reading skills from one language to another, it was not evident from this study. What was suggested, instead, was that literate bilingual and trilingual students had a general learning advantage over monolinguals. The nature of that advantage was not discovered.*
>
> *The findings from this portion of the study and from that gleaned from the little research in the literature also suggested that the policy of delaying the teaching of English reading for one or more years should be reconsidered; those students were severely disadvantaged in English and there was no evidence that their Spanish scores were better than those students who learned reading in both languages at the same time.*

Many instructional practice variables were investigated in this study, chosen from research findings and from the theoretical proposals. Clearly, there were substantial differences in the implementation of the instructional practices. Some differences as a generality, had little influence on the English or Spanish achievement scores of the fluent English speaking pupils. They tended to affect the limited English students significantly and some influenced the scores of the non-English speaking students even more. In the briefest terms, the findings from the instructional variables were:

> The indiscriminate mixing of languages exerted considerable negative influence on the scores for all the subtests but affected the language subtest most; the effect was much more pronounced for limited and non-English speaking students than for those fluent in English; mixing languages did not appear to affect the Spanish achievement scores.

While this study did not investigate the nature of the effect of mixing languages, there was some indication that the so-called "confusion between languages" might be related to that model. More research on the practice is required, but the evidence from this California study strongly suggested that it be reduced if not eliminated.

The degree of teacher English proficiency affected the English achievement subtests of reading and language; teacher primary language proficiency affected the Spanish reading subtest. Very low effects were found for teacher language proficiency on the mathematics subtests in either English or Spanish. While most teachers who were expected to teach in either or both of the languages were fluent and literate, some extreme deficiencies in both were found.

The present regulations and procedures on teacher language proficiency, as much in English as in the primary languages, should be reviewed and strengthened; there are substantial problems for limited and non-English speaking pupils in some classrooms.

The number of English reading and writing activities and the structure and appropriateness of the English modeling were associated with differences in the English achievement scores; reading activities in Spanish were associated with the Spanish reading subtest scores. The observed evidence showed that there are substantial deficiencies in the teaching of Spanish reading and the teaching of English as a second language. Teachers complained that they had not been taught how to do either. The combined effects of the language arts skills were sufficient to warrant efforts toward improvement.

Teacher preparation programs should be encouraged to institute full courses on both subjects since the present arrangement of devoting a few hours to them, either through the combined language arts courses or through inservice, have not produced adequate implementation in many classrooms.

Exposure to learning has been shown by many researchers to strongly affect achievement. The present study measured learning time compared to non-learning time, and the amount of instructor/pupil interaction. Learning time was found to be associated with differences in the achievement scores, but its contribution to the varying achievement was not as great as for the other instructional variables. Similarly, interaction, as measured in this research, was a marginal contributor to score

> differences. No conclusion was drawn about either, since some measurement problems were encountered and because some effects, albeit not uniform, were found.

The general conclusion from this study was that achievement varies substantially by several instructional practices and that those practices can be improved. Limited and non-English speaking pupils are more affected by the inadequacies in the instruction than are the fluent English speakers. It may be that some differentials in how those who have not yet acquired enough English are taught need to be introduced into the system. There was strong evidence, however, that strengthening the delivery of educational services to those pupils, whether through the established programs of bilingual or monolingual education, would increase their learning without much innovation. The majority of the teachers in this very large study were efficient, hard working, and effective. The results confirmed that. Their methods and techniques can be learned by the others and substantial learning increases will result.

Finally, some important relationships developed between the results of the satisfaction substudy, reported in Chapter V, and those of the investigation into achievement. One of the surprises in the satisfaction research was that most parents and teachers, and many community members, expressed strong support for the services to limited and non-English speaking pupils; some, of course, disagreed. The comparison of the results of the two portions of the research strongly suggests that the amount of satisfaction was engendered from the considerable body of well implemented instructional practices. That is, their judgments about the "programs," as was the case with achievement in them, were more dependent upon implementation than on the kind of program. The dissatisfaction with "too much primary language and not enough English" was borne out through the observations in some of the classrooms. The wide spread commitment to bilingual education found through the interviews, while not compared statistically to the better instruction, may well have coincided. There was fairly strong evidence, even though general, that the respondents had judged the operation of the programs and had rated the satisfaction items accordingly. The general coincidence between the findings of the two substudies added confirmation to both.

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CHAPTER VII: AUXILIARY SERVICES

In examining the instructional services provided to LES/NES students, Development Associates also took into account the nature of the auxiliary services associated with these programs. While the instructional practices in the classroom were deemed to be an important source of differences in program effectiveness, the review of auxiliary services yielded some contextual data about program management, program articulation, advisory committees, and parent and community involvement. Similarly, topics such as teacher preparation, district relations with universities and sources of external assistance were examined in order to further understand potential influences on the programs and their operation.

Study Design

The study design covering the auxiliary services was guided by the selection of measures based on experience and input from the Advisory Committee and Consultants for the general study:

Program Administration/Management Support: This dealt mainly with administrative practices, recruitment of staff, attitudes of the school and central administration, the role of the program director/coordinator as a leader in the instructional area, and counseling services.

Articulation with the Regular School Program: The emphasis was on the relationship between the LES/NES program itself and the regular school offering and between grades within the LES/NES program itself. The compatibility of curricular materials across programs and grade levels, as well as staff and policy level coordination (e.g., staff interactions, record transfers, and student related policies) were examined through participation of project certificated personnel in such activities as department meetings, revisions of school curriculum and course offerings, dissemination of program information, district wide curriculum task forces, and establishment of proficiency standards.

Role of District and School Advisory Committees: Administrators and school authorities as well as parent/community members were asked about the existence of these committees, their composition, frequency of meetings, and the topics or program related activities covered by these meetings. Description of variations and perceptions of committee members were noted.

Parent and Community Involvement: This focused on the formal structure of involvement mechanisms, the functions and roles of parents in the program, and the functions and roles of community members in the program. Narratives on general declarations and observations, descriptions of various levels of involvement, as well as problems experienced by schools and in classrooms were noted.

Teacher Preparation and Inservice Staff Training: Administrators, teachers, and aides were asked about job related inservice training, including training objectives, methods used in assessing professional growth needs, attendance at inservice training, and perceived effectiveness as indicated by trainees and co-workers. This included general information on preparation of sample teachers and aides, numbers of certificated and waivered staff, and district problems related to staffing bilingual classrooms.

District/University Relationships: The inquiry dealt with the amount of cooperation received by the school from districts and to what extent district/university relationships existed.

State Department Services: This was designed to ascertain the extent and quality of services received from the State Department of Education, including visits by state department officials and publications from the state level.

Assistance from Other Agencies: Several federal, state, and consortium programs exist in California and as a generality, they are designed to provide services of materials development, field testing of materials and models, dissemination, training, and evaluation. The extent to which these contributed to the progress of the district programs was expected to be brought out by the interviewed district officials.

Information concerning the auxiliary services was sought through the administrator questionnaires, the principal guides, and the advisory committee questionnaires. Additionally, open ended interviews were held with a wide range of staff members in the State Department of Education, several committees of the Legislature, departments teaching bilingual education methodologies in eight universities, and four assistance agencies. The quantifiable replies were tabulated manually. The general interview material was, for the most part, unique to the specialization of the department or agency and was simply woven into the appropriate discussions. Only one committee member, a parent, refused the interview, reportedly on orders from the chairperson of the committee.

These approaches to the study of the auxiliary services led to a limitation that must be noted. Most of the questions directly probed what kinds of services were provided or received but no prompting items were incorporated. The net result was usually a simplified reply with little explanatory information included. Had prompting items been included, the respondents might have recalled some kinds of assistance that were not brought to mind at the moment of the direct question. In a few cases, the interviewers became aware of some interactions that apparently had been forgotten; these were followed up and incorporated when they could be verified. The procedure was intentionally employed so that important services would be named and described, rather than vague relationships, so that potential services would not be enmeshed with those actually provided. Nevertheless, some of the data obtained was partial.

District/School Advisory Committee

Pursuant to the provisions of AB 1329 and AB 65 concerning the establishment and functions of district wide and school level advisory committees for bilingual programs, Development Associates gathered information on this topic from the sample districts and schools. Questions about committee functions (5) were incorporated into the structured interview guides directed to the administrators and at least two members of the parent advisory committee in each sample district or school. They were supplemented by focused observations and reviews of pertinent records.

The administrator at each site was specifically asked whether the school or district had a bilingual advisory committee, the composition of members by name and groups represented, frequency of meetings, topics or program-related activities covered by these meetings, and whether or not the bilingual program provided for parent education activities. This was followed up by a separate interview with both an administrator and a community member of the Advisory Committee. Additional comments related to advisory committee functioning were also solicited.

The results of the survey revealed varied arrangements. Fifty-two administrator respondents said they had both district wide and school level bilingual advisory committees. In a number of cases, a school level member was also a member of the district wide committee. Seven administrators said they had no advisory committees operating at the time of the interview and two replied that they had had them in the past but "not yet this year." In both cases, however, some plan or intention to establish the committee was evident.

The composition of the membership varied with representatives of various groups including school staff, parents, and students at the high school level. Committee size ranged from five to 21 members, depending on the size of the program and its functions. The majority of the membership was composed of parents from different ethnic groups. In almost all cases, the chairperson of the committee was a parent, although much direction for the workings of the committee came from the principal or school staff representatives. Some committees were constituted specifically for either Title VII or Title I programs. In one district, the Bilingual Advisory Committee consisted of a board and a subcommittee. Also in one case, the chairperson of one school advisory committee was the chairperson of the advisory committee in two other schools.

Forty-one respondents said their committees met 4, 6, or 7 times a year; others twice a semester. Three respondents said their committees met as needed. Some replied that their committees had not yet met.

The topics covered by committee meetings, as reported by administrators, were varied. The most popular dealt with funding problems and program development. These were followed by curriculum for bilingual education, parent involvement, bilingual legislation, students' needs, and the language census. Almost all committees provided for parent education activities of some sort. These included health and social services, integration problems, disciplinary procedures, diverse needs of schools, and parliamentary procedures.

Not many of the administrators chose to make comments about their advisory committees. It was evident from the interviews and the review of records that the establishment of committees was posing difficult problems for some. This was typified in the extreme by the following comment: "We have been doing our best but we just couldn't get the parents to be members of the committees, much less to get them to attend parent meetings."

The questions directed to the advisory committee members consisted of six items: the first three dealt with their familiarity with the bylaws of the advisory committee, their judgment on the extent of advisory committee involvement in various areas of activity, and whether or not the advisory committee was effective in its work, and how valuable, in their opinion, the committee was.

Sixty administrators or 97% of the respondents said they were familiar with the bylaws of the advisory committee; only 2, or 3%, answered no. Out of the total of 77 respondents in the non-school category, i.e., advisory committee members, 63, or 82%, replied affirmatively; 14 respondents, 18 %, answered negatively. It was evident from further inquiry that those respondents who answered yes represented a wide variation of familiarity with the governing regulations. Some said the bylaws were "good in theory but not in practice." Others felt that so many mandates and political controversies made it difficult to administer the program. Some community members added that they hardly attended meetings or that the meetings were almost always in English which they did not understand well. Table 43 compares the school administrator and the non-school member ratings of the advisory committee on the extent of committee involvement in the various areas of activity.

Table 43: Extent of Advisory Committee Involvement

Area	Very little/None		Moderate		Great Deal		TOTAL*	
	Adm.	Mem.	Adm.	Mem.	Adm.	Mem.	Adm.	Mem.
Program planning	32%	26%	43%	43%	25%	31%	60	77
Language Census	57	54	28	29	15	17	61	76
Implementation	49	29	37	53	14	19	59	80
Program changes	41	36	42	40	17	24	59	75
Evaluation	36	29	58	47	7	24	59	76
Other	38	18	36	36	26	46	58	72

*In whole numbers, not percentages.

As shown in Table 43, the majority of administrators judged the level of committee involvement to be either moderate or very little or none at all. While the non-school committee members also felt that the extent of involvement was moderate in implementation, program changes, and evaluation areas, and very little in language census, they saw a great deal of involvement in other areas, in contrast to the opinion of the administrators. On the average, administrators and committee members both viewed the extent of committee involvement as moderate.

To the question on whether or not they felt comfortable with committee functions, 40 administrators (67%) answered yes as against 20 (33%) who said no. Sixty-eight committee members (87%) replied affirmatively and 10 (13%) said no. Several comments were offered. Although "things are being accomplished" and the "committee is working well," there was a need seen for more coordination and more parent involvement. More participation in program planning and implementation was urged. However, "many parents, especially the Asians, were reported as being reluctant to serve on committees. "The big problem is that parents don't come to meetings." Some felt comfortable "when the meeting was in Spanish but felt embarrassed when in English." Another said that "the advisory committee is merely a rubber stamp for decisions made behind closed doors."

Fifty-eight administrators indicated how they felt about the responsiveness of bilingual programs to advisory committee decisions. Of this total, 31 (53%) gave a rating of highly responsive; 23 (38%), somewhat; and only 4 (7%), not very responsive. In contrast, 37 members (56% of their total) stated that the bilingual programs were highly responsive. Twenty-four (38%) said somewhat; 4, or 6%, indicated not very responsive. There was therefore a relatively high congruence of replies between administrators and non-school committee members.

As to whether or not they felt the committee to be effective in its work, 37 (65%) administrators answered yes and 20 (35%) said no. Sixty-two (84%) of the members replied yes and 12 (16%) felt negatively. A few of those who answered yes elucidated by saying that the school was responsive to committee recommendations and that their committees were working well. The negative comments varied. Some repeated the views that "the advisory committee was just a puppet," that "there was a need for more parent involvement, especially among the Asians." Others said the "state should print and widely disseminate handbooks on bilingual education for parents." Complaints were also made, in some cases, against the overwhelming control of the committees by a certain ethnic group, depriving other minority groups of due representation. Some also reported that it was difficult to arrive at decisions because "the community was very divided and it's hard to please all sides."

The last question dealt with respondent judgment concerning the value of the advisory committee. Of the 57 administrator respondents, 37 (65%) gave a rating of very valuable; 24 (42%) rated the item moderate, and 16 (28%) said little or none at all. Among the members, 46 (58%) viewed the committee to be very valuable; 26 (33%), moderate; and 7 (9%), little or none at all. Although the value ratings varied, it can be seen that there was general agreement among administrators and members that the advisory committee was very valuable. The positive comments on effectiveness converged on the view that the "committee acted as a guardian of community interests" and is "a good forum" for expressing the needs of the community. The negative comments repeated previous complaints.

Although looking at the information about the many committees investigated showed vague and generally unimpressive data, the functioning of one advisory committee was so intensive that it merits special description. The researchers visited this educational center four times and for varying periods, some of which were scheduled in advance and some unannounced. During every monitoring, volunteers were there helping with the work; during the most active time, 2 to 5 pm, the volunteers, some of whom were advisory committee members and some who were arranged for by committee members, numbered not fewer than 4; twice there were more than 10 people present - typing, tutoring students, translating materials, and even sweeping and mopping the floor. At the one advisory committee meeting attended by a Development Associates researcher, 47 parents and community members were present and participating actively. Further, the input of the people present showed that they regularly attended the meetings and took part in the work; it definitely was not a show and tell for the investigator. That advisory committee and its work were models that could help most schools and districts improve their community participation.

In summary, the survey showed that there was, on the whole, a general compliance with laws and regulations concerning the establishment of district and school advisory committees for bilingual education. District and school administrators appeared to be fully aware of their responsibilities in this regard and parents had started to be involved, albeit only slowly in several cases. In those that had well established committees, there was a greater level of familiarity with regulations; and committee workings and functions were generally accorded moderate satisfaction. Some districts and schools, however, were still experiencing difficulties in establishing advisory committees, reportedly due mainly to apathy of parents in attending meetings and becoming involved. In any case, there was clearly a need to monitor the establishment of such committees, organize their records, and pursue further inducements to make them viable since they were generally seen as providing a forum for community input into bilingual programs.

Community Involvement

The survey on community involvement focused on formal structures and mechanisms and the role of parents and community members in the bilingual programs. Narratives, general declarations, descriptions of involvement, as well as problems experienced by schools, were noted during interviews, and specific questions on the topic were incorporated into the various instruments developed for the general study. Available records were also reviewed as appropriate. Designated community members were interviewed as part of the satisfaction study, and were also queried for their perceptions on general community involvment in bilingual programs.

The districts and the schools in the sample generally regarded community involvement as an essential and vital portion of the democratic process. An effort was made to involve parents and community members in the planning process, and the majority of sample schools had some type of outreach program. The employment of parent or community liaison aides helped the outreach in some districts. Parent advisory committee meetings were reported to be open to the public to keep the community aware of current developments and problems in bilingual education. Also, some parent and adult education programs provided workshops and meetings on various topics of community interest such as citizenship, health and social services. Parents were also encouraged to volunteer in the classroom as a way to introduce them to classroom management and instruction.

A portion of the administrator interview guide asked school authorities how much cooperation they received from the community. Forty-one of them gave a rating from moderate to a great deal Twenty-three rated the item as slight or not at all. These judgments suggested that the schools surveyed were generally satisfied with community cooperation, but that more could be accomplished.

Some administrators, however, thought that there "was too much emphasis on community participation" and "while this is good in theory, it is difficult to accomplish in practice." Others said "political controversies exist, making it difficult to enlist community cooperation;" "parents just don't come to meetings," and "[parents] are supportive but are unfamiliar with policies and not interested in active participation." The efforts of parents as classroom volunteers were also seen as minimal.

Several comments from community members repeated those made by the administrators. Other persons noted that non-English speaking parents could not be expected to feel comfortable in general assembly meetings or conferences conducted in English. Complaints were also made against "high handedness" on the part of a few administrators and lack of regular communication. "Community meetings should be made more attractive and useful," was a typical recommendation.

While the above comments did not necessarily reflect the majority opinion, they suggested areas for improving the policies. Regulations of the several state and federal committees should be made very explicit. They should also be integrated to reduce the duplication of effort. While some districts had consolidated boards with subcommittees for some functions or programs, others had so many committees they were unsure of their membership or function. Guidelines have been issued but there is still considerable confusion about the committees required. Further clarification is required. Finally, a few committees existed only on paper; two schools didn't even pretend to operate via committees. If the laws on community involvement have any meaning, such negligence needs to be corrected. The correction of these deficiencies and helping the responsive districts strengthen their community functioning should improve the services to limited and non-English speaking pupils.

Teacher/Aide Preparation and Inservice Training Programs

Interview questionnaires were utilized to gather information from teachers and aides in each of the sampled classes concerning their training and preparation for teaching in bilingual or ESL classes. This was supplemented by questions on the administrators interview guide concerning the qualifications of bilingual teachers in each school, as well as a listing of staff development activities for the school and/or district.

Teachers

Table 44 summarizes both the college preparation and actual working experience in bilingual/ESL areas of the teachers interviewed during this study.

Table 44: Teachers' Experience and Preparation in Bilingual/ESl Areas

Total Years in Bilingual /ESL Teaching

	1 Year	2-3 Yrs.	4-5 Yrs.	6-9 Yrs.	10 or More	Total
N	10	42	49	59	112	272
%	3.7	15.4	18.0	21.7	41.2	100.0

College Education - College Credit Hours in Bilingual/ESL Areas

Number of Credit Units	0	1-9	10-19	20-29	30-39	40+	Total
N	59	56	40	24	31	19	229
%	25.8	24.5	17.5	10.5	13.5	8.2	100.0

As may be noted, nearly 63% of the teachers in sample classrooms had been involved in bilingual/ESL instruction for more than five years, and the vast majority had at least two years of classroom experience. For the most part then, the teachers in the study were not new to bilingual education.

However, although the majority of teachers did have classroom experience in bilingual/ESL areas, nearly half of the respondents reported little or no formal college coursework in these areas. As discussed in Chapter IV, this finding was verified during classroom observations when it became obvious that some of the teachers had not received adequate preparation in certain areas such as ESL instruction and the teaching of Spanish reading. Although formal college training is not the only vehicle for such preparation, at least some of the teachers seen could have benefited from more formal instruction. Most guidelines have insisted on strong university training (1, 4, 11).

Under the requirements of AB 1329, classroom teachers and aides in bilingual/ESL programs were required to have specialized certification in those areas. The law also allowed for two year waivers in situations where certified personnel were not available. Of the teachers interviewed for this study, slightly more than half (57.5%) was certificated with the remainder still teaching under waivers (42.5%). Teachers on waivers, by and large, already had teaching credentials, and many were working on their bilingual/ESL credentials.

In general, the teachers interviewed felt themselves to be adequately prepared professionally, but circumstances and situations beyond their control often impinged on the classroom instruction. These included large class sizes, various educational and fluency levels of students within a class, and the lack of adequate instructional materials.

Aides

The aides interviewed in the sample classrooms had been employed in bilingual or ESL classrooms for a much shorter time period than the teachers. Thus, over 50% of the sample had been instructional aides for three years or less. One quarter of those interviewed was in the first year as bilingual/ESL aides. Some 41% had college credit. Only 25% of the aides had college degrees and 10% had teaching credentials, neither of which were required for employment as instructional aides. Aides were also less likely than teachers to have participated in specialized bilingual or ESL coursework - nearly 60% had no credits at all in this area, and the remainder had attended only a few sessions. The data related to aide preparation are summarized in Tables 45 and 46.

Table 45: Distribution of Aide College Preparation by Experience in Bilingual/ESL

Experience in Bilingual/ESL	College Education					
	No Credit	3-30 hrs	31-60 hrs	60+ hrs	Degree	Total (N)
1 year	22	9	2	9	18	60
2-3 years	15	7	7	11	19	59
4-5 years	21	12	1	0	9	43
6-9 years	24	7	4	4	8	47
10+ years	13	3	1	1	4	22
Total (N)	95	38	15	25	58	231
%	41.1	16.4	6.4	10.8	25.1	100.0

The number of credits in bilingual and ESL courses varied a great deal for the aides. By far the majority had none, 64%, even excluding those that had been hired during the school year. About 19% had 1 to 9 credit hours. Those with more made up only 11%.

Tabel 46: Distribution of Aide Preparation in Bilingual and ESL Courses

Number of Credits Completed							
	None	1-9	10-19	20-29	30-39	NA*	Total
N	148	45	12	9	3	11	231
%	64.0	19.4	5.1	3.8	1.3	4.7	100.0

**Not applicable; recently hired for the first time.*

The examination of aide experience, general college credits, and credits in bilingual and ESL courses showed considerable experience but relatively low preparation. Some appeared to be moving on a career development path but most did not.

Although many aides reported that they did provide classroom instructional services to students, most also reported that they spent a lot of time in other duties such as discipline, housekeeping, recess and yard duty, and clerical work. Considering that many were not specifically trained for instructional duties, this division of duties appeared appropriate. At the same time, many teachers reported the need for more primary language support and instruction from the aides. Sometimes, native English speaking aides, with only a basic knowledge of the primary language, were hired because no one else was available. While some aides provided English models for students, this was not always the case when the aides had a low English proficiency. The employment of aides varied from two to six hours a day. A few had eight hours depending on funds available for the purpose.

In several of the sample schools, instructional aides were also observed to be travelling from room to room to help LES/NES children on an individual basis. This was in contrast to those who stayed in self contained bilingual classes the whole day. Some aides pulled out children from different classrooms and worked with them in small groups. A few aides gave instruction to a number of children seated around a corner table while the teacher handled other groups for instruction in other subject areas. Other than helping individual children, the most common aide function, aides were frequently preparing materials, grading papers, and performing other tasks. Some of these variations in the use of aides were reportedly working well; others were seen still in the experimental stages. In general, good working relations were observed between teachers and aides.

Inservice Training Programs

All the sample districts and schools in the study reported having staff development programs of some sort. These ranged from an hour or two of inservice workshop on a specific topic held in the school to highly structured series of workshops either arranged by the school for its own staff or by the district in which case, attendance would be on a district wide basis. Several copious lists of inservice topics were submitted. The most common topics dealt with classroom organization and management, cultural heritage of LES/NES students, second and primary language instruction methodologies, literacy skills, and proficiency assessments.

The general practice among school administrators consisted of assessment of the needs of teachers and aides for further training through surveys and observations, usually conducted at the beginning of the school year. The planning and implementation of inservice training was often carried out in coordination with the district office and depending on available funds, most inservice training was scheduled after school hours or on Saturdays.

Based on the examination and compilation of records, district sponsored inservice workshops totaled 108 during the period from September 1, 1978 through August 31, 1979. School sponsored workshops numbered 21. Inservice held in conjunction with universities/colleges numbered 11. Other inservices were reportedly conducted at one time or the other in conjunction with county and migrant education offices, a national training resource center consortia, the California Association for Bilingual Education, and universities.

To ascertain actual attendance at inservice training programs, Development Associates surveyed teachers and aides in the sample schools through Teacher and Aide Questionnaires. The teacher responses were, on the whole, very nebulous and sketchy, thus it was not possible to arrive at any detailed and accurate conclusions.

Virtually all said they attended workshops at one time or the other but they could not remember how many they had attended and when, much less recall the inservice topics covered. The responses of the aides were also vague, but allowing for estimates, 89 or 41.6% of the 214 respondents said they never attended any staff development activity; the rest reported that they had attended inservice at one time or the other. Six aides said they attended as many as 10 or more workshops and 15 replied that they didn't know or could not remember.

It was evident from the survey that a great deal of inservice plans existed but whether or not they had been carried out successfully could not be fully ascertained. Inservice records were not readily available and memories about them seemed incomplete. Administrators invariably said they had quite successful staff development programs and in some cases, these had been observed to be true. Others, however, quite frankly reported that their staff development plans had not been as successful as they should have for a variety of reasons.

Several problems impeding the success of inservice training programs were reported by district and school staff. The most common was lack of funds for the purpose, due to budget cutbacks and priorities given to other school activities. It was also observed that inservice was starting to be anathema to several teachers, particularly those already tenured who felt that they had already attended enough and had reached the top of the district salary scale. Lack of incentives to attend workshops was also evident among several aides who regarded themselves as merely "birds of passage" while searching for "greener pastures." Thus, in summary, there appears to be a pressing need to make inservices or workshops more attractive, more viable, and more meaningful. The usefulness of inservice training programs is well recognized (15). To improve them through incentives and other various ways and means, including monitoring of records and actual attendance, presents further challenge.

Cooperation with Other Institutions

The California legislation for bilingual education directs each district to establish liaisons with appropriate universities and colleges as a means of enhancing the preparation of personnel and the delivery of services to limited and non-English speaking children. Federal acts have created training, materials development, and evaluation centers in many areas of the nation and the state to further the work of the administrative and instructional staff members, especially those working with bilingual education. County and state organizations for bilingual education have been formed and they offer some kinds of services to districts. The State Department of Education offices and some federal offices located in the state can provide certain services within the limitations of their funding and the number of their employees.

The nature and extent of the cooperation with these institutions was a part of the examination of the auxiliary services to the districts. The perception of that cooperation was sought through the questionnaires to the administrators in the general study of the California educational programs. Interviews were also conducted with school personnel to determine their participation in the cooperative activities. Open ended interviews were carried out with personnel of the major institutions named by the districts as cooperators in the provision of services.

Universities and Colleges

All of the districts reported some degree of relationship with one or more colleges and universities. Most of the services described were limited to "urging personnel to take advantage of training programs offered by those institutions." The Title VII and Title IV project coordinators appeared to have the strongest and most persistent relationships with institutions of higher education. Even these, however, noted that the cooperation depended primarily on the availability of funds for such arrangements. The most frequently named service was the training of teachers and aides, both within degree and/or certification programs and through inservice training. Assistance with evaluation activities was reported by five of the fifteen districts with federal programs.

A few unusually strong liaisons were reported. Two community colleges provided assistance with the minority languages by assigning students speaking those languages to work in the schools. In both cases, the funds were facilitated by the colleges through the use of work study and CETA (Department of Labor) funds. In another case, the college furnished a bilingual secretary through CETA monies. Two California universities, one from Nevada, and a California college participated actively with districts in the development and refinement of instructional materials. In each of these instances, district and school administrators praised the work of the university staff members for the services rendered.

The interviews with the staff members of the universities generally confirmed the cooperation reported by the districts and schools. A general complaint of those officials was that the cooperation was always transitory - dependent on the availability of funds - and that planning for the requested services was often difficult to arrange in the short time after notification. Some dissatisfaction was voiced by the college professors about offering courses that were requested by the districts. In some cases courses had to be cancelled due to low enrollments. Several also commented that "scholarships and stipends" appeared to govern the number that signed up for specially requested courses rather than the need for the course. Only two of the eight university officials interviewed could recall having provided consulting on materials development, program articulation, or instructional approaches.

The district and school officials, on the other hand, were critical of the university personnel. Some alleged that the professors "did not know bilingual education," "had not taught in the public schools," or "that they taught generalities rather than the specifics of how to teach the children." Confirmation in the belief in these statements was offered several times when school personnel noted they were driving long distances to attend another university rather than the one near at hand. The Development Associates researchers, through the classroom observations, became aware of two serious and widespread weaknesses in the instruction: teaching reading in Spanish and teaching English as a second language. Many teachers complained that they had not been taught how to do either and yet were expected to do them. Direct questions about these to the university officials confirmed the teacher comments. Only one of the universities had a course entitled "teaching Spanish reading" but three said it was included in their course named "bilingual language arts." Only one university had a regularly listed English as a second language course but six said they had offered special workshops on the subject.

No district or school official mentioned that universities perform the language proficiency assessment of the teachers. In conjunction with other discussion, many teachers commented on some aspect of this. Chief among their complaints was other instructors who had been certificated but whose English and/or primary language was at a less than professional level. Many volunteered that those deficiencies occurred because "X university give the language tests by conversation over a cup of coffee." Some also commented that the tests were extremely difficult at some universities. While the university claimed as deficient in the assessment procedures was not interviewed, assessment procedures at two were observed to be very difficult, taking more than one day in both cases. Apparently the procedures differ widely among the universities. The measured English and primary language proficiency in some of the observations further substantiated that disparities existed in the certification of teachers' language proficiency.

In summary, only two cases of close district/university liaison relationships were documented; all the other districts reported some type of cooperation but it appeared to be sporadic and short lived. Both the districts and the universities emphasized that their interrelationships depended primarily on money; if the district had funds, cooperation was ensured; if the university had money, almost always from federal projects, joint ventures were forthcoming. One other kind of relationship appeared to be fruitful - when a college or university hired a school official part time, the two institutions worked together on some activities.

Federal Service Projects

Most of the districts and schools reported no contacts with the many federal service projects operating in the state. Some were even surprised to hear about the existence of some of them when recommendations for places that might help were offered. The federal projects appeared to have relationships with only a few districts or else their communications about the services had not reached the appropriate district and school personnel.

Despite this generality when viewing the districts and schools as a whole, some outstanding cooperative ventures were reported and confirmed. One out-of-state project had assisted in the development of and had published an important instructional material in a Native American language for a district. Another out-of-state institution had provided teaching pamphlets in Laotian, Cambodian, Vietnamese, and Cantonese. A federal project in California had worked with a district to produce two texts in Vietnamese, plus some other materials in Tagalog. A federally funded project in a local district had produced materials in Panjabi and those materials were also found in use in another district. Two districts showed close relationships with a federally funded bilingual education service center and another had recently established a liaison with it.

Overall, the cooperation between the districts and the federally funded projects varied from some very helpful and continuing activities to none at all. Those few districts that worked closely with a federal project benefitted greatly. In the rest of the cases, either the districts and/or the federal projects seemed to be pursuing their own ends. Communications between projects and districts were few or did not produce joint work. Whatever the cause, cooperation should become more widespread; projects were producing materials and offering services and districts were searching for both. Efforts to publicize what is needed and available should increase the benefits to both kinds of institutions.

State Assistance Offices

In the 1978 interviews, 13 of the 15 districts reported some kind of state/district activity. In 1979, another district reported that some assistance had been provided when it sought state funds. The remaining district reported communications with federal officials housed in state institutions.

All of the districts reporting assistance from the state included information on consulting services when a problem arose. Most of these involved the interpretation of state laws and regulations, attendance at conferences and workshops when new procedures were to be instituted, and assistance in the formulation of proposals to the federal agencies. The consultations generally were conducted via the telephone, and that mode of delivery was reported as satisfactory to the districts and about the only way the few staff members in the state agencies could assist so many bilingual programs.

Half the districts reported that State Department of Education officials had administered the "Program Quality Review Inventory" in some of their schools. All of the district administrators noted some utility from those evaluation efforts but school officials were divided on the subject; some had "learned something about the programs" through the inventory and the others alleged that they had heard nothing about the results of its administration. Most of the districts also reported some other type of monitoring by the state, either through area conferences to which the district was invited or through compliance visits. As would be expected, the conferences were generally viewed as helpful and the compliance visits were met with guarded comments.

Assistance from Indian Education, School Improvement Plan, Indochinese Refugee, Migrant Education, and the Office of the Legislative Analyst was noted by a few districts. Four districts reported visits from legislative committee members. Two districts said they had been visited by a state senator and five had had assemblymen view some of their work. Most districts reported telephone contact and correspondence with their senators and assemblymen -especially with those most interested in bilingual education.

The contact described as most frequent by the local administrators was assistance from several offices on budgeting and financial reporting. All of the officials said they needed help often and that the offices charged with those responsibilities in the state were knowledgeable and willing to give the assistance needed.

The general view of the districts, then, was that the state assistance offices "helped about as much as they could." Almost every district administrator recognized that the offices have few personnel and other resources, thus the help they can give is limited. Some school officers expressed that same view but some also seemed to resent long waits to "get questions answered," slow correspondence, and over emphasis on "compliance instead of assistance with implementation." Despite these few complaints, more help was reported from the state assistance offices than from any of the other categories within the auxiliary services. The districts expressed a considerable satisfaction with these agencies.

Regional Service Organizations

Although several publications name a number of consortium, county, and other regional service agencies, few of these were mentioned by the district and school administrators. One district reported a great deal of help from a consortium; two said their membership in two others "wasn't worth the money being spent." Inservice training was the major item mentioned as service received from the consortia. A fourth district commented that it had belonged to a consortium but had withdrawn because of lack of service.

Help from the county and regional offices was reported for special education processing, migrant program materials, vocational education training, and special services in speech therapy, for the deaf and blind, and psychological testing and counseling. Some dissatisfaction with some of the county/regional personnel was voiced by six districts and the primary complaint was that the officials "rode roughshod" over district and school personnel, demanded special schedules, and required more service than they rendered. As a generality, the districts appeared to be satisfied with help they received that they could not provide within their budget limits and with assistance on unusual problems.

Special committees on bilingual education were also reported within the services mentioned, although most of the respondents noted that the groups had been recently formed. The help they mentioned was in pooling financial resources to provide inservice training, providing some expert help from district personnel identified through the committee, and as a sounding board for the implementation of certain kinds of programs. One of the most common benefits from these committees was that "together they represented strength in numbers," and that they had obtained funds or other help because of their participation in the committees.

Only one other source of assistance was named: organizations and agencies for Native Americans. One district and an Indian organization cooperated in many ways, including instructional help to the Native American students. Another worked closely with the officials and tribal council of a reservation. These mutual assistance arrangements appeared to have had some difficulty in one case and to have been very profitable in the other. The Indian organizations and one of the districts were very satisfied with the cooperative effort; one district expressed some dissatisfaction with the procedures and the results.

Articulation Among the School Programs

Administrators in the sample districts and schools were queried about the articulation among the federal and state programs and with the regular school instruction. Their responses showed that the processes of coordination and articulation were accomplished mainly through the participation of the administrators and the teachers in activities that spanned the several parts of the program. They listed participation in department meetings, revision of school curricula and course offerings, district wide curriculum task forces, program evaluations, and the selection of instructional materials as primary activities.

Almost all the principals said that "all the work is shared by everyone," and many emphasized that special care was given to assure that bilingual personnel worked with the regular program activities and that the non-bilingual personnel assisted the bilingual program in some ways. Some said that separation occurred only when the topic for discussion was so specialized that it would waste other staff members' time to be included. They also noted, however, that that sometimes occurred with other components in the instruction - vocational education, mathematics, and any other specialized branch of the program.

Although occasionally an administrator mentioned some kind of division among the faculty members, in every case but one, the mention appeared to have more to do with the personality of some person rather than with articulation per se. The one exception was migrant education. Sixteen school principals complained about the "separatism" of migrant education, about the special scheduling required to meet its activities, and about the distance that was created between the migrant instructors and the rest of the staff. Several said that the problem arose from the federal regulations about the migrant programs which many saw as "divisive" and counter productive. On the other hand, some of the districts appeared to have no difficulty with the migrant program, or at least they reported that none existed. Observations of some of the activities seemed to confirm that those districts had a better articulation with that program and between that and the other programs.

Several school and district administrators noted that the consolidated application and the Economic Impact Aid combination of funding had helped the articulation among programs. School Improvement Plans were reported by several schools as helpful since the activities had to embrace the entire school program and all the pupils; they felt that had caused them and their personnel to work together in a way that had not been achieved before.

In general, then, the articulation among the several programs was reported as fairly strong; the researchers found a great deal of evidence for that judgment in most of the schools. Some separation still existed, but its amount was probably not greater than would happen regardless of differing programs. One program appeared to the school administrators to have resisted integration into the regular school functioning; there was also evidence that that was the case in some schools but not in others. Most of the respondents volunteered that inter-program articulation had increased substantially during the last few years and that the consolidated application and the combined funding had helped achieve the articulation.

Summary and Recommendations

The services provided in support of education for limited and non-English speaking children were investigated through questionnaires, open ended interviews, and reviews of records. These were conducted in district and school offices, state agencies, federal programs, regional assistance projects, and universities. Information on aide and teacher preparation, experience, and in-service training was also asked of them directly. Similarly, perceptions on the functioning of advisory committees were obtained from school administrators and from members of the committees.

Several kinds of advisory committees were discovered in the sample districts and schools. For some, a district wide committee with subcommittees for specific purposes, served for all the functions. In other districts, each school had its own committee, usually with one member representing the school on a district committee. Most of the declared committees were found to be functioning regularly and those were seen as effective and valuable. In some others, the committee "had not met yet" or evidence for its existence was dubious. Some administrators complained that there were too many regulations about such committees, that too many were required, and that it was difficult to get community participation in them. The members, when they complained, mentioned professional dominance of the committees and/or dominance of the committee by one or another ethnic group. The positive comments centered mainly on the inputs to the school programs, the opportunity to become better acquainted with the school programs, and that the committees served as a forum for discussing community needs.

The data on advisory committees was vague and incomplete, making it difficult to judge much of their functioning. These qualities of the information provided by districts, schools, and committee members led to the following recommendation:

> *If decision makers are confident that there are substantial benefits to be derived from advisory committees, the rules and regulations on them should be reviewed, simplified, and enforced through monitoring.*

The researchers saw one outstanding advisory committee in action, and everyone concerned was convinced that the work of the members and the community involvement they engendered was requisite to the valuable services being rendered by the program. It would appear, then, that districts and schools could institute committees that function to the benefit of the pupils.

General community involvement in the schools appeared to be sporadic and specific to some activity or committee membership. Little information on participation was available and tended to suggest that it was not usually of much assistance to the schools. The methods for obtaining involvement included flyers, letters, media announcements, and hired community involvement aides. One exceptional community involvement effort, combined with the functioning of an advisory committee, was observed in one district: volunteers were always present when the researchers were in the center, performing many valuable tasks, and their advisory committee meeting was attended by quite large numbers considering the size of the small community.

With the exception of the case described under the advisory committee heading, so little of consequence was garnered about community involvement that the generation of a policy issue concerning it was impossible. Development Associates saw the one case of excellent community involvement, including the teaching of children, so it can be achieved in other districts.

The study of the preparation, experience, and inservice of the aides and the teachers in the bilingual and English as a second language programs showed a wide variety of all three. The vast majority of the teachers was appropriately certified for the positions they filled or they were in continuous preparation programs in universities. Some were not, and that was explained by the district's inability to find certificated teachers, by reductions in total staff leading to layoffs of bilingual personnel, and by emergency provisions occasioned by unusual conditions such as rapid increases in the number of pupils needing services. The aides were even more varied in these characteristics; a surprising number had college degrees or had two or more years of university education. Many, however, had no college credit and did not appear to be pursuing a preparation program. Although many kinds of inservice sessions were listed by the districts, little useful information on these was obtained from the teachers and the aides. Forgetting probably played some part in that, but the rest was attributed to very short treatments of several subjects in a short time, leading the respondents to not recognize the topics listed.

Teacher preparation, as viewed from certification and the years of experience in the appropriate subject, was judged to be progressing well; little evidence of attempts to avoid obtaining certificated personnel was seen. Aide preparation was so varied that it defied categorization except that the hiring of aides for several years in a row when they made no moves toward university preparation seemed questionable. Teachers and aides in many classrooms were observed to be deficient in two subject areas: teaching Spanish reading and teaching English as a second language. Some pronounced deficiencies in both English and the primary language were documented. Two recommendations were generated:

> *State standards for the proficiency in English and the primary language should be examined, remedied if deficient, and monitored.*
>
> *State and district officials, in coordination with the universities, should institute rigorous programs to train teachers and aides how to teach Spanish reading and how to teach English as a second language.*

While the numbers of teachers and aides that are deficient in the languages were not huge, they were large enough to cause considerable concern about the services they could provide to the children. The number of teaching methodology problems was very large, appeared to be severely hindering the implementation of the programs, and could be remedied with some concentrated effort and requirements for their implementation.

Districts are expected to establish a continuing liaison relationship with an institution of higher education. A few districts reported very substantial cooperation with a college or university, and those were confirmed in the interviews with the college officials. Most, however, reported that the relationships depended on the initiative of individual teachers and aides to pursue the programs offered at the university, on monies becoming available to pay for services, and on the universities receiving special funds to carry on training. Although there were many problems observed in the schools and classrooms, neither the districts nor the universities, as a generality, seemed to see cooperation as a way to solve them. Development Associates was therefore reluctant to make recommendations about the liaisons or lack of them, except to suggest that those districts and universities with strong relationships should be encouraged and more assistance granted them for the work.

The districts and schools felt well satisfied with the assistance they received from the state offices and suggested that those were about as much as they could be considering the small staffs of those offices. Some dissatisfaction with monitoring being conducted and little information emanating from it was expressed. The assistance from federal programs was much like that found for universities. A few districts and a few of the federal programs in California, and just about as many out-of-state, were found to have fruitful relationships. The majority, however, knew little about the federal assistance projects and most had received no help from them. This facet did suggest a recommendation:

> *Some study of the many federal assistance projects in the state should be done to determine what they do, for whom they do it, and what results are in evidence.*

Similar to the suggestions for the district and university relationships, those that can demonstrate worthwhile assistance and mutual cooperation should be encouraged and aided with funds: the others may not be worth the investment in them. The regional assistance programs also seemed to vary considerably in their perceived worth to the districts. Those that had provided special services to the districts, services which they themselves could not provide within their budget limitations, were perceived as very beneficial. Some others were not always seen as helpful; to the contrary, some were seen as causing problems for the districts, schools, and pupils.

Some unexpected relationships were also found, mutual assistance between districts and other districts, and cooperative activities with two Native American organizations. Most of these efforts were perceived as very helpful by both organizations. The state and federal governments might find some of these arrangements to be cost effective when compared to some of the other projects in existence.

Articulation of the bilingual program with the others in the schools was reported to be very high and to have improved a great deal in the last few years. Most principals and instructors agreed on the articulation success. Some respondents suggested that the consolidated application, school improvement monies, and the economic impact aid combinations had contributed to the improved articulation. Only one program was singled out as divisory and resistant to integration, the migrant program, but not all the districts felt that way. Those that did, however, were enough to suggest that some study into the reported problem is merited.

Finally, although not an intended item for investigation in this study, the researchers were made aware of many duplications of effort in several endeavors. One of these was that in many cases, several agencies and institutions provide almost identical services, or at least are charged with doing so, and many of them concentrate on the same work. Thus, districts and schools may find several organizations seeking cooperation on the same thing. At the same time, this apparently uncoordinated offering of services acted to leave some tasks almost untouched. Further, the duplication was also vividly apparent in the area of research, evaluation, and monitoring. One district had a succession of six teams visiting the schools in a two month period. These two conditions suggested an area for improvement that may take time but that can improve the cost effectiveness and the delivery of services:

> *Some mechanism is needed to examine the functions of the many agencies and organizations offering services that are supposed to benefit bilingual education, divide up some of the tasks among them so that all of them are addressed, and provide some means of communicating the existence of products and services to those concerned.*
>
> *A mechanism is also sorely needed that could coordinate some of the research, evaluation, and monitoring being conducted in the schools; one district in this study had never before been visited and some others were visited almost continuously.*

Obviously, some latitude in both areas must be allowed so that providers with certain strengths can concentrate on what they do well. When several organizations in the same geographic area are reportedly doing the same things for the same districts, some redistribution of effort is called for. Similarly, coordination should be able to reduce the myriad investigations being carried out in some districts and schools; the duplication is so serious that some administrators and teachers sincerely felt they had little time left to teach children. The problem should be addressed soon and thoroughly.

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CHAPTER VIII: FINANCE SUBSTUDY

The research by Development Associates included a substudy examining the nature and extent of financial resources supporting the provision of instructional services to limited and non-English speaking pupils in California. *Interim Report III* contained a series of tentative study questions for the finance study which were reviewed by the Office of the Legislative Analyst and the Advisory Committee and Consultants. Based on their recommendations, these were refined and consolidated into five major questions. The finance instruments were also revised in accordance with the study questions.

Study Questions and Design

The finance substudy concentrated on examining the nature of the funding sources used to support LES/NES instructional services, as well as the manner in which they were utilized at the school level. The research also examined the processes used by districts in allocating these funds to the schools and their relation to the identified needs of the LES/NES pupils. Finally, the study delved into how changes in state funding policies and practices affected provision of services. The study used the following questions as the framework for the data collection:

1. What was the relationship between the level of bilingual education funding provided to districts and the identified needs of the LES/NES pupils in those districts?

2. What effects did changes in state funding practices and policies have on resources available to support instructional services to LES/NES students?

3. How were resource decisions made about funding allocations to individual schools?

4. How were state and federal bilingual education funds generally being used at the district and school levels?

5. What factors contributed to differential costs in providing instructional services to LES/NES students?

The finance study was carried out in three districts chosen from within the overall study sample. These districts were purposely selected on the basis of their geographic location, size of student population, number of enrolled LES/NES pupils, and the various types of funding sources used to support instructional services to LES/NES pupils. Finance data were collected at each of the three districts during spring 1980.

Based on interviews with district officials, Development Associates selected specific schools for study as part of the finance research. Each school was studied with respect to the funding sources used, the resources allocated to support LES/NES services, and the decision making processes evident in the allocation of resources. Interviews and data collection focused on how the funds were being used in the schools. Interview guides were developed for the districts and schools. (These instruments are contained in *Volume III* of the final report.)

Development Associates used an intensive case study approach in performing the finance study at the selected districts and schools. A combination of methods was used to gather information about funding sources and their utilization; structured interviews, document and budget reviews, and informal discussions with key respondents were all used as a means of constructing the finance picture in each district.

In carrying out the finance study, Development Associates encountered a number of technical problems which consequently limited the research. In all of the districts surveyed, there was a pronounced absence of data regarding actual district and school expenditures for LES/NES services. The researchers relied primarily on district budgets, which represented the planned allocations. These were derived from the consolidated application forms and other district records and provided one means of calculating the amounts allocated to a school or specific program activity.

The quality and precision of the financial data available in the sample districts varied substantially. Some districts were hard pressed to provide reliable details as to the funding sources or the allocations to the schools. Many schools were unable to provide details about the financing beyond the standard district budget formats. A few districts and schools did have very specific records and were able to pinpoint funds fairly accurately.

The most singular limitation in the study was the inability to track the flow of funds from the district to the schools and classrooms. Originally, the investigators hoped to trace key state and federal funds down to the classroom and ascertain the types of instructional services being supported by the funds. However, as the research progressed, the likelihood of tracking specific funds became increasingly dim. Generally, districts pooled their state, federal, and local monies, making it extremely difficult to isolate funding strands.

Similar difficulties were experienced in attempting to compute per pupil expenditures in programs serving LES/NES pupils. Districts and schools generally did not have this information, thus estimates given by school officials had to be used.

School Finance Literature

A review of the literature on school finance revealed an extensive array of studies undertaken nationally and in various states, including California. In the past decade, educational researchers and economists have given considerable attention to the ramifications of different federal and state mechanisms for financing public education. Although the review of the finance literature was limited, it was evident that much attention had been given to the California school finance system and in particular to the implications and potential consequences of the Serrano decision. In several instances, researchers noted very similar problems as those found in conducting this finance study, especially the absence of information on expenditures.

The problems and issues associated with the provision of federal aid to school districts were extensively treated by Reed (47), and Ginsburg & Killalea (22). White (54) examined the broader issues related to school finance reform in public education. Similar topics were subsequently addressed by Jargowsky et al (27). The budgeting processes and behaviors of districts in the allocation of funds were analyzed by Hulpke & Watne (26), calling attention to the decision making dynamics operating in public education.

California has been the topic of numerous school finance studies and commentaries. Phelps & Smith (43) systematically reviewed the potential implications of the Serrano decision for other states. In the same vein, Mockler & Hayward (39) examined the school finance system in California from the pre-Serrano period through 1978. MacDermott (37) evaluated the effects of the Serrano decision, and Grubb (23) weighed the public school finance picture after Serrano.

In 1966, the Coleman report (11) produced strong reactions from the educational community and researchers by suggesting that the effects of investing large amounts of additional funds in schools were minimal. Coleman's data, which were later scrutinized by researchers and criticized for the analytical methods applied, suggested that home environment variables were the most important factors in determining students' academic achievement, rather than expenditures.

The Dougherty & Klibanoff (16) California study suggested that differences in performance among schools were not due to differences in the concentration of resources, but rather to the basic skills emphasis evident in the effective schools. The research accounted for differences in school performance as a result of longer time devoted to reading and the use of reading specialists. Similarly, they found no particular combination of resources to be more effective than others.

In addition to the Serrano decision, Proposition 13 had severe effects on the financing of public education in California. An important effect explained by Guthrie (24) was the introduction of a dramatic shift in the financing of California's schools. Prior to the enactment of the proposition, between 40-45% of total district revenues were derived from the state. In 1978-79, following Proposition 13, 65-70% of school funding came from the state, establishing a higher degree of dependence by districts on state resources.

Researchers involved in studying the financing of bilingual education found several problems attendant upon this area of investigation. Cardenas (10) reported a serious absence of information concerning school district expenditures and bilingual education support in a study of bilingual education costs carried out in Texas. Problems in obtaining expenditure data and tracing expenditures related to bilingual instruction were likewise reported. Development Associates' (15) study of state programs in bilingual education reported difficulties in separating funds at the local level due to the comingling of these funds in the implementation of bilingual programs.

In summary, the limited review of the available literature on school finance issues, especially studies or articles about the California system, highlighted the potential and actual consequences of expenditure equalization reforms such as the Serrano decision, as well as the dramatic changes in the state school financing system that resulted from Proposition 13. Most authors were of the consensus that school effectiveness and pupil performance are not directly related to expenditures or the concentration of resources. In the case of bilingual education costs, most of the studies reported serious problems in obtaining accurate data about expenditures. The inability to isolate specific funds and their utilization in bilingual program activities seriously limited those studies.

For the purposes of the Development Associates' study in California, the review of the finance literature further reinforced the value of adopting a broader descriptive approach to the examination of financial resources applied in serving LES/NES students and minimizing the reliance on district and school expenditure data. Similarly, the review showed that the provision of bilingual education services in California was affected by a constellation of factors beyond the categorical state and federal funds which affected the nature and extent of financial support given to these programs.

State and Federal Fund Allocations

Since 1969, when federal bilingual legislation was first enacted, there have been substantial increases in the total dollar amounts provided in support of bilingual education from federal sources. Twenty-six projects were funded through the ESEA Title VII in 1969 for a total of $3,521,845. Allocation figures compiled by the California State Department of Education indicated that in 1978-79 approximately 45% of the financial support for bilingual education in the state was derived from the ESEA Title VII.

State financial support for bilingual education has evidenced similar increases since 1972 when the initial bilingual legislation was enacted via AB 2284. Relatively gradual increments in state bilingual allocations were evident between 1972 and 1976. Marked increases in state funding took place in 1977-78 with the authorization of $21,100,000 from SB 1641 resulting in an additional 353 state funded bilingual projects. In that same year, $3,000,000 were authorized through AB 1329 (Table 47).

Table 47: State Funded Bilingual Programs

Year	Local Assistance Number of Projects	Dollar Amounts
1972-73	74	$1,000,000
1973-74	72	3,800,000
1974-75	72	3,836,000
1975-76	108	8,139,808
1976-77	129	8,139,808
1977-78	482	32,728,808
1978-79	—	31,250,363

Primary Source: *Bilingual Bicultural Education Funding Allocations FY 1978-79, Department of Education, January 16, 1979.*

During academic year 1979-80, which was the base year for the finance study, the State Department of Education reported a total of $23,000,000 in state funding for bilingual education. This amount included funding previously channeled through categorical programs such as AB 1329 and SB 1641, and subsequently shifted to EIA. For the same academic year, a total of $28,000,000 in ESEA Title VII funds was allocated to districts in California.

Funding Sources

In terms of aggregate funding patterns for bilingual education, the overall dollar allocations increased steadily since 1969. Similarly, the number of individual projects funded through federal and state sources has risen. In 1977-78, the State Department of Education reported 482 bilingual projects for that academic year. A precise count for the 1978-79 academic year was not available at the date of this report, but informal State Department of Education estimates indicated approximately 500 bilingual projects in the state. For that same year, Table 48 summarizes the distribution of monies that were allocated to bilingual education from various sources.

Table 48: Summary of Funding Distribution, 1978-79

Fund Source & Amount Available	SB 1641 $20,156,627	AB 2234 $8,231,882	AB 1329 $2,861,854	ESEA VII $25,928,872	Total $57,179,235
Number of Districts					
Single Fund Source	256	11	30	15	
Two Fund Sources	164	23	152	24	
Three Fund Sources	60	37	57	38	
Four Fund Sources	55	55	55	55	
Total	535	126	294	144	

Primary Source: *Bilingual Bicultural Education Funding Allocations FY 1978-79, Department of Education, January 16, 1979.*

Instructional services to LES/NES students in the sample districts studied by Development Associates were supported by a broad variety of state and federal funding sources. Figure II sumarizes the sources reported by all of the sample districts. In addition to the major sources of funding such as EIA, ESEA Title VII, and Title I, the districts reported various sources of direct and indirect support. For example, the Department of Labor's (CETA) program had been utilized to employ and train educational aides in bilingual programs. Targeted funds through the Indochinese Refugee Program likewise represented a key source of support in several districts. Special funding for Indian education programs also supported services to LES/NES pupils in some districts. At least in these districts, the base of financial support appeared to be fairly diversified. Though most districts relied primarily on EIA, Title VII, and Title I support, other sources such as the School Improvement Program have been tapped to serve LES/NES students.

Allocation Comparisons

Development Associates also examined the allocation of Economic Impact Aid (EIA) LES/NES funds in relation to comparative enrollments in the 15 districts with the highest number of LES/NES students. The State Department of Education's Bilingual Bicultural Division provided a summary of the 1979-80 EIA allocations (Table 49). With a few exceptions, the distribution of funds appeared to be fairly consistent with enrollment. One district received approval from the State Department of Education to reduce its calculated LES/NES allotment from $86 per pupil to $6 per pupil. Based on these data, the average per pupil allocation in the 15 districts was $166. Funding ranged from a high of $383 per pupil to a low of $65, excepting the one district which was allowed the $6 standard.

Figure II: 1979-80 Reported Funding Sources by Sample District

SOURCES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Districts by Code Number														
ESEA Title I Regular	x	x	x	x		x	x	x	x	x		x		x	x
ESEA Title I Migrant	x	x								x	x	x			
ESEA Title VII	x	x		x	x		x	x	x	x	x		x		x
ESEA Title XIII*								x		x					
School Improvement Program		x		x				x				x	x	x	
Economic Impact Aid	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Local District	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Bilingual Vocational										x			x		
Johnson-O'Malley*													x	x	
ESEA Title IV B													x	x	x
ESEA Title IV C*													x	x	
IEA Title XI A*														x	x
IEA Title XI B*													x	x**	
DOL-CETA														x	x
Follow Through								x							

* *ESEA Title XIII, Indochinese Refugee Program; Johnson-O'Malley, specific Indian funds; ESEA Title IV B, library; ESEA Title IV C, dissemination programs; IEA (Indian Education Act) XI A (formerly Title IV), Indian cultural and academic needs; IEA XI B, innovative Indian projects; DOL-CETA (Department of Labor, Comprehensive Employment and Training Act), training bilingual aides.*

***Funded partially through a cooperating agency, the Indian Action Council, and partially through the district.*

Table 49: Summary of 1979-80 Fiscal Data of the State's 15 Largest EIA Allocations, Rank Ordered by LES/NES Enrollment*

District by Code Number	Total LES/NES Enrollment	Total EIA Entitlement	EIA-LES/NES Allocations	Per Pupil Allocations
1	94331	$36,646,352	$20,207,179	$214
2	8864	8,075,907	2,593,956	293
3	6004	1,033,788	37,000**	6
4	5289	2,672,725	930,909	176
5	4674	2,325,909	703,836	151
6	3970	4,713,271	1,315,717	331
7	3490	2,245,687	321,220	92
8	3226	6,263,717	1,236,497	383
9	3016	1,133,700	374,728	124
10	2933	691,793	277,339	95
11	2445	1,470,362	410,720	168
12	2440	2,030,433	513,181	210
13	2347	371,241	167,294	71
14	2194	217,320	141,711	65
15	2100	637,452	247,336	118

** Source: State Department of Education.*
***Received SDE approval to reduce calculated LES/NES standard from $86 to $6.*

The EIA LES/NES allocation for each district was computed on the basis of the number of enrolled LES/NES students multiplied by a standard dollar amount. The differences in the standard amount were due to the nature of the EIA formula which took EIA indirect costs, centralized services, and security into account. These costs were deducted from each district's total EIA entitlement. The remaining amount was then divided by the total EIA-SCE eligible students plus all other LES/NES students in the district who were not already EIA eligible. The product of this computation represented the district's standard dollar amount per student. LES/NES pupils in a district, whether or not eligible for compensatory education, should receive excess cost services averaging the standard dollar amount per pupil. Since no expenditure data on the EIA funds were available, it was not possible to ascertain the extent to which this procedure had been followed by the districts.

Perceptions of the Allocations

The reported adequacy of the funding for LES/NES varied. Two of the districts clearly felt that the financial resources were not sufficient in light of increasing LES/NES enrollments. This problem was cited by districts which experienced a continuous influx of new LES/NES students throughout the academic year. They reported that by the middle of the academic year, the funds allocated were inadequate to serve the actual number of LES/NES students enrolled. Consequently, one district noted that many NES students had to be placed in regular classrooms because of the lack of funds. A common suggestion made by the district and school staffs was the need for additional flexibility in the budgeting and allocation process. Though schools could readjust their budgets in response to new LES/NES enrollments, generally the funds were not received by a school until February or later.

For the most part, however, administrators recognized the legal and programmatic complexities attendant to financing bilingual education. One principal observed that without the state funding provided through EIA, the school would be unable to provide any services to the LES/NES students. The consolidation of state funds through the EIA process was generally viewed as efficient in bringing together various sources and in earmarking monies for LES/NES services. Many of the difficulties experienced by schools reportedly were due to district allocation and budgeting procedures and did not necessarily reflect a serious deficiency in the state funding mechanism.

Effects of Changes in State Funding Practices

Districts and schools cited two principal sources of change in state funding practices that affected the provision of services to LES/NES students - the passage of Proposition 13 and the shift to the EIA consolidated application process. As previously noted, Proposition 13 dramatically changed the school financing mechanism and increased the reliance of districts on state funding. In addition, Proposition 13 resulted in substantial reductions in most districts' budgets with concomitant cutbacks in teachers, support services, materials, and other resources.

According to the districts and schools surveyed, the effects of Proposition 13 on bilingual education will be lasting. Immediate effects were felt by the bilingual programs largely as a result of across-the-board reductions in the districts. All schools experienced reductions in operating budgets, and in many cases, reductions in teaching personnel. Other services and resources such as librarians, school psychologists, nurses, summer sessions, counselors, and materials were reduced or eliminated. Many bilingual programs were somewhat cushioned by the state and federal funding earmarked for LES/NES services. In spite of this, the LES/NES services were faced with the problems encountered by all school programs in the form of leaner budgets and resources. Generally, larger districts were able to absorb the effects of

Proposition 13 better than their smaller counterparts.

State categorical funding sources, such as AB 1329 and AB 2284, were blanketed under the EIA mechanism in 1978-79 and made a part of the consolidated application process. The districts surveyed were generally positive about the consolidated procedures and viewed the shift to EIA as an efficient method for planning and budgeting. One district, in particular, noted that the EIA mechanism was beneficial in that it specified funds for services to LES/NES students -funds which otherwise might not have been targeted for those students.

A few problems were cited with respect to the clarity of the new EIA regulations and their application to LES/NES programs. Initially, some problems were experienced with the application procedures by one district. Some of the regulations had been misunderstood by district staff, but it appeared that over a period of time, this problem subsided.

Thus, the two principal factors cited by districts were the passage of Proposition 13 and the shift to the EIA mechanism. The effects of Proposition 13, according to the surveyed districts, were across-the-board reductions affecting bilingual programs to about the same extent as the regualr instructional program. Some long term effects were expected by the districts given the impact of inflation and increased school costs. In light of these, districts expect to face difficult choices in future years. Some district and school staffs anticipated that bilingual programs and other services to LES/NES students may receive less local financial support since those programs will be competing with other local priorities and community expectations. Although bilingual programs have been relatively insulated by state and federal funding, the level of future financial support for LES/NES programs was seen as uncertain by the districts and schools surveyed.

The EIA procedures and the consolidated application system were generally perceived as a useful and efficient way of bringing together different funding sources under one single blanket. Although some confusion with the regulations was reported, most districts appeared to be conversant with the system's procedures.

District Allocations to Schools

Development Associates queried district and school staff members about the procedures employed by a district in allocating funds to the respective schools, and in particular the procedures used to distribute funds for LES/NES services. The finance study also examined the roles of principals and other staff members, parents, and community members in the resource allocation process, as well as in the utilization of funds at the schools.

In the three districts surveyed for the finance study, decisions about the allocation of funds were generally centralized, that is, made at the district level. The most common standard used for these allocation decisions was the reported and/or projected LES/NES enrollment in a school. School staff members, including principals, played a major role in the assessment and identification of the LES/NES students and in the formulation of recommendations to the district with respect to instructional priorities in their schools.

The formality and definition of the allocation procedures and decision making standards varied across the three sample districts. In one, a principal observed that the criteria used by the district to allocate funds were "unclear." The data gathered from the sample districts suggested that the specificity of the allocation procedures was related to the size of the district. Large districts tended to adopt more formal methods involving school staff and parents in the planning and budgeting process. Smaller districts, at least those surveyed for the finance study, generally relied on the LES/NES enrollment figures as a basis for allocating funds to the schools, with apparently less emphasis on school plans and priorities. Since data on school expenditures were not available, it was not possible to compare the planned budgets with the actual utilization of funds. However, the interviewed principals generally felt that they had some discretionary authority or latitude in how funds were expended in their respective schools, within the boundaries of the district's policies.

One of the surveyed districts employed an elaborate series of planning activities involving district staff members, principals, school personnel, and parents in planning programs and budgets for the forthcoming academic year. The planning, which was conducted on a district wide basis, dealt with EIA, Title I, SCE, and SIP funding using an extensive network of school task forces. That district, which was relatively large, utilized a well defined and formal system. Although no data about the quality of the planning or its products were gathered, district and school personnel appeared to place a genuine priority on the involvement of parents in this process as evidenced by memoranda issued by the superintendent, district office correspondence, and the interview data.

Within the framework of state and federal funding guidelines, districts had several alternatives for allocating specific monies to specific schools. This was especially true for EIA-SCE funds. In addition, the consolidated application provided for six alternative allocation methods:

. equitably provided
. equitably provided/ranking
. Title I "skipped"
. Title I "layering"
. Specified grade spans
. Section 4421

Two of the surveyed districts employed the "layering" approach; the third did not indicate the alternative employed.

The "layering" approach involved the distribution of funds by districts to schools in a series. District and state LES/NES funds, for example, were the first layer of monies committed by the district. Once these funds had been allocated, federal funds such as Title I, were then distributed. This approach was intended to ensure that federal funds were not used to supplant local and state funds.

As noted earlier, the LES/NES enrollment was used by districts as the most common standard for disbursing funds to schools. One of the surveyed districts employed a standard dollar allocation of $370 per pupil in the elementary schools. According to the district administrators interviewed, the dollar amount was computed on the basis of the district's cost experiences over several previous years. District officials noted that the amount exceeded the formula advised by the State Department of Education. They indicated that they served a substantial minority student population and thus complied not only with state bilingual guidelines, but the Lau and Office of Civil Rights directives as well. These compliance measures were reflected in the district's per pupil allocation. In addition to the $370 standard amount, Title I designated schools received another $90 per pupil.

Ideally, the allocation of funds to schools to support educational services for LES/NES students should take into account specific instructional needs of those students. In the three districts participating in the finance substudy, the level of need was primarily defined by the schools in terms of enrollment figures and language proficiency classifications. However, during interviews with Development Associates research staff, district and school personnel were able to identify a series of fairly specific instructional needs:

. oral language development and acquisition of English
. vocabulary development in English
. native language support
. concept development
. primary language vocabulary development

While this list does not represent an exhaustive treatment of the LES/NES needs, it does suggest that for the most part the districts and schools have looked beyond the language assessment measures and the resultant classifications in considering the student needs. The need for additional bilingual teachers and aides, more instructional materials in the primary language of the pupils, and additional resources for testing and evaluation were also cited as key needs in serving the LES/NES students.

One of the major problems with current funding mechanisms cited was the lack of flexibility in allocations to specific schools. Budgets were calculated based on either the previous end of school year figures or the October census, and few changes could be made to account for fluctuations in student numbers. The influx of new LES/NES students throughout the academic year was cited as a serious budgetary problem by principals in districts close to the Mexican border and those in urban areas with a high immigrant flow. While budgetary modifications could be made on paper, in practice the additional funds needed to serve new students would be available several months later, if at all. Often the district had to bear the added expenses, or schools were forced to operate classrooms with up to 45 NES students and one teacher. These principals strongly recommended that some revisions in the district and state procedures be made in order to expedite the adjustment of school budgets to meet enrollment increases as they occurred.

Utilization of State and Local Funds

As noted in an earlier section, it was decided to concentrate the finance study on three selected districts from within the larger research sample because of limited resources available for this portion of the study. In the absence of complete data on actual expenditures at the school level, the staff had to rely on planned allocations as contained in formal district budgets in order to approximate the utilization of specific funding sources in providing services to LES/NES students.

One of the three districts surveyed was found to be especially informative in terms of the variety of sources used to support LES/NES services. This district, more than the others, employed several funding sources and made available fairly detailed budgetary information about the 1979-80 allocations made to ten of the schools within its boundaries. A detailed analysis of the allocations made to these schools was prepared. Funding included EIA LES/NES monies, district funds, SCE, SIP, and Title I. These analyses of funding and allocation are summarized in Tables 50-54. While not generalizable to all California districts, the allocation and utilization patterns of this case study district may be indicative of the way in which various funding sources are used at the school level. It was assumed that there was a reasonable correspondence between the school program budgets and actual expenditures.

As shown in Table 50, the Economic Impact Aid LES/NES funds were designated primarily for instructional personnel costs. A high proportion of these funds were used to employ teachers and language specialists. Substantial amounts were also alloted for teacher assistants, teacher substitutes, and educational aides. Approximately 24% of the funds was for teacher assistants and aides. Less than one percent was utilized for the purchase of instructional materials which were obtained mostly through local district funds.

Table 50: Allocation of EIA LES/NES Funds Across Ten Schools in a Case Study District, 1979-80

Line Item	Amount	Percentage
Teachers	$304,350	35.0
Teacher Assistants	97,590	11.2
Teacher Substitutes	5,056	0.6
Psychologist	19,773	2.3
Counselors	97,031	11.2
Nurse	4,058	0.5
Instructional Materials	105	**
Educational Aides	112,030	12.9
Administration	18,061	2.1
Coordinators	96,392	11.1
Multicultural Program	660	0.1
Staff Development	4,272	0.5
Fixed Charges	108,934	12.5
Parent Involvement	1,000	0.1
	$869,312	100.1 *

* *Discrepancy due to rounding*
** *Less than 0.1%*

District funds for LES/NES services, shown in Table 51, were concentrated in three line items, namely, educational aides, instructional materials, and administrative support. Staff development, parent involvement activities, and counselor services appeared to form the second priority group in terms of allocations from the district funds.

Table 51: Allocation of District LES/NES Funds Across Ten Schools in a Case Study District, 1979-80

Line Item	Amount	Percentage
Coordinators	$ 68,518	7.7
Educational Aides	234,314	26.5
Counselors	30,540	3.4
Staff Development	59,928	6.8
Parent Involvement	20,470	2.3
Instructional Materials	190,530	21.5
Equipment	11,668	1.3
Administration	136,370	15.4
Multicultural Program	8,060	0.9
Field Trips	13,875	1.6
Facilities	1,200	0.1
Fixed Charges	110,242	12.4
	$885,715	99.9*

* *Discrepancy due to rounding*

State Compensatory Education funds, summarized in Table 52, were partially used to support LES/NES services in the ten sample schools. The funds allocated to the LES/NES program were mostly concentrated in paying for teacher assistants in the bilingual classrooms. The majority of the SCE funds were utilized in the basic skills program area. Instructional materials accounted for 21.6%; higher proportions were needed from this and a subsequent source than from EIA funds.

Table 52: Allocation of SCE Funds Across Ten Schools in a Case Study District, 1979-1980

Line Item	Amount	Percentage
Teachers	$ 60,870	22.9
Teacher Assistants	40,650	15.3
Teacher Substitutes	1,408	0.5
Coordinators	8,080	3.0
Multicultural Program	4,000	1.5
Educational Aides	6,087	2.3
Administration	3,111	1.2
Instructional Materials	57,592	21.6
Parent Involvement	4,500	1.7
Equipment	23,623	8.9
Staff Development	3,000	1.1
Health Services	5,000	1.9
Field Trips	5,625	2.1
Facilities	27,000	10.1
Fixed Charges	15,562	5.8
	$266,108	99.9*

*Discrepancy due to rounding.

School Improvement Program funds, which were intended to provide districts with resources for improving the overall quality of instruction in the schools, were partially targeted for the LES/NES program area. These SIP funds were expended on the services of a Spanish teacher specialist, as well as teacher assistants and educational aides for the bilingual program. SIP funds were used in conjunction with the EIA, district, and SCE sources to supply the classrooms with teachers and instructional support staff. Table 53 summarizes the overall allocation of the SIP funds across the ten sample schools. Note that again, instructional materials were an important component in the budget.

Table 53: Allocation of SIP Funds Across Ten Schools in a Case Study District, 1979-80

Line Item	Amount	Percentage
Teachers	$ 60,870	8.9
Teacher Assistants	15,891	2.3
Teacher Substitutes	1,152	0.2
Coordinators	97,402	14.3
Psychologist	9,887	1.4
Nurse	12,174	1.8
Educational Aides	225,685	33.1
Parent Involvement	4,999	0.7
Staff Development	1,700	0.2
Fixed Charges	67,524	9.9
Instructional Materials	169,360	24.8
Administration	14,271	2.1
Facilities	500	0.1
Equipment	600	0.1
	$682,015	99.9*

* Discrepancy due to rounding

These sample schools also utilized Title I funding to support bilingual programs since a portion of these funds was earmarked for instructional personnel costs in the LES/NES program area. The major portion of Title I funds was allocated to the basic skills program area. Specific line items from the Title I budget are summarized in Table 54. Instructional materials were a very small item in the Title I budget for this school.

Table 54: Allocation of Title I Regular Funds Across Ten Schools in a Case Study District, 1979-80

Line Item	Amount	Percentage
Teachers	$ 284,060	25.7
Teacher Assistants	206,971	18.7
Teacher Substitutes	5,376	0.5
Coordinators	237,204	21.4
Psychologist	22,245	2.0
Counselors	21,186	1.9
Nurse	12,174	1.1
Multicultural Program	696	0.1
Educational Aides	149,868	13.5
Administration	15,481	1.4
Staff Development	11,232	1.0
Instructional Materials	4,796	0.4
Fixed Charges	135,943	12.3
	$1,107,232	100.0

The various funding sources used by this case study district were concentrated in the instructional personnel and instructional support staff categories. Moreover, the various state, local, and federal sources defrayed the costs for other services such as counseling, psychological services, and health services. This case study district, and the pattern of funding allocations employed, exemplified the variety of financial sources supporting different facets of instructional services to LES/NES students and the combined use of these sources to provide instructional staff, teacher assistants and selected auxiliary services.

The several source contributions to the total budget of the case study district are shown in Table 55. The several came together, within funding regulations and restrictions, to supply the needed services.

Table 55: Summary of Funding Allocations Across Ten Schools in a Case Study District, 1979-80

Line Item	EIA LES/NES	District LES/NES	SCE	SIP	Title I	Total
Teachers	$304,350	-	$60,870	$60,870	$284,060	$710,150
Teacher Assistants	97,590	-	40,650	15,891	206,971	361,102
Teacher Substitutes	5,056	-	1,408	1,152	5,376	12,992
Psychologists	19,773	-	-	9,887	22,245	51,905
Counselors	97,031	$30,540	-	-	21,186	148,757
Nurse	4,058	-	-	12,174	12,174	28,406
Educational Aides	112,030	234,314	6,087	225,685	149,868	727,984
Instructional Materials	105	190,530	57,592	169,360	4,796	422,383
Coordinators	96,392	68,518	8,080	97,402	237,204	507,596
Administration	18,061	136,370	3,111	14,271	15,481	187,294
Multicultural Program	660	8,060	4,000	-	696	13,416
Staff Development	4,272	59,928	3,000	1,700	11,232	80,132
Parent Involvement	1,000	20,470	4,500	4,999	-	30,969
Equipment	-	11,668	23,623	600	-	35,891
Field Trips	-	13,875	5,625	-	-	19,500
Facilities	-	1,200	27,000	500	-	28,700
Health Services	-	-	5,000	-	-	5,000
Fixed Charges	108,934	110,242	15,562	67,524	135,943	438,205
TOTAL	$869,312	$885,715	$266,108	$682,015	$1,107,232	$3,810,382

Utilization of ESEA Title VII Funds

As part of the finance substudy, Development Associates conducted a limited but important review of the utilization of ESEA Title VII funds in the three sample districts. The most detailed information about district disbursement of Title VII monies was gained from a "typical" school from one of the three districts. Additional information gained regarding utilization of Title VII funds is also discussed in the section.

Two of the three sample districts chose to manage Title VII resources by designating specific "Title VII schools" and "Title VII Classrooms." In those districts, approximately one third of the monies was spent for centralized district services (including administration, program evaluation, materials development), with the bulk of the funds actually spent for on site program services at the schools. The third district operated Title VII largely through a district wide program office, with language and material development specialists and home aides available to all designated Title VII schools. School site Title VII expenditures were limited to paying some instructional aide salaries and a small contribution to the purchase of instructional materials.

The case study school in the sample district was one which had been designated a "Title VII" school. For ease in record keeping, the district had further decided to designate certain classrooms as "Title VII classrooms" in contrast to "state supported classrooms." In general, neither the educational program nor the LES/NES percentage varied between these two types of classrooms. Rather, the only substantial difference was in the funding source against which programs were charged.

In addition, per pupil classroom costs differed slightly between the two types of programs. To some degree, the distinction is arbitrary as it was impossible for district or school personnel to single out any students who were only supported by Title VII monies, even in the designated Title VII classes. Keeping this in mind, however, it was possible to average per pupil costs of running a Title VII classroom versus a state supported one. Those figures are summarized in Table 56.

Table 56: Comparison of Classroom Operating Costs for Case Study School in a Sample California District, 1979-80

	Title VII Classes	State Supported classes	Total
Total Funds	$91,459	$174,734	$266,193
Enrollment	210 persons	354	564
Cost per Enrollee in Class*	$435.52	$493.60	$472.00
Percent of Pupils in Class who are LES/NES	53%	51%	52%

**Inclusive of FES pupils.*

As might be expected, the state supported classrooms, which drew upon a variety of funding sources, reported higher per pupil expenditures. Overall, Title VII classrooms and state supported classrooms spent roughly the same percentage of funds on various resource categories, which would be expected with both classroom types offering similar programs. A breakdown of LES/NES funds for the case study school is presented in Table 57 by line item and four principal sources of funds: Title VII; Title I-Regular; EIA; and 81-874. As can be seen readily from the table, a greater share of LES/NES funds in all classrooms was expended on the teacher resource category than on any other category (i.e., 42 percent for teachers). The share for all staff, inclusive of teacher aides and clerical staff, was 86 percent.

The three sample districts exhibited two distinct patterns in the allocation of Title VII monies to schools. For two districts, the bulk of the money was spent for school site program activities. For the third, the great majority of funds was spent for district wide resource specialists and materials development. Possibly other patterns exist in California school districts. Any evaluation of the effectiveness of Title VII programs in meeting LES/NES instructional needs should certainly consider the mode under which services are provided.

Factors Contributing to Differential Costs

The finance substudy also attempted to identify those factors which appeared to contribute to differential costs in providing services to LES/NES pupils. In order to accomplish this facet of the study, DA requested per pupil costs were estimated from the substudy sample districts and schools as a means of establishing a base from which to examine variations in costs. In addition, the districts were asked to indicate which factors, in their experience, were associated with differences in the cost of instructing LES/NES students.

Two of the three sample districts were able to provide the research team with some estimates of the LES/NES per pupil costs. In those instances, the DA team calculated an approximate cost figure on the basis of the school budget and enrollment data. Again, with the absence of data on expenditures for LES/NES services, it was extremely difficult to obtain accurate estimates.

Estimates for the LES/NES students ranged from $370 to $500 per pupil in the three sample districts. Only one district had a specific and standard formula for allocating funds to schools serving LES/NES students. In this district, a standard dollar allocation of $370 per pupil was used in preparing budgets for the schools. The elementary schools with a LES/NES population in this district generally received an additional $90 per pupil from state compensatory education funds.

A second district estimated the per pupil cost for LES/NES students to be approximately $500. However, this may have been an

Table 57: LES/NES Funds Expended at Case Study School During FY 1979-80

LINE ITEM	TITLE VII		TITLE I - Reg.		E.I.A.		81-874		TOTAL	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Teachers	$22,091	24	$70,628	49	$20,440	73%	---	--	$113,159	42
Teacher Aides	47,883	52	46,260	32	---	--	$3,043	89	97,186	36
Clerical Staff	---	--	20,753	14	---	--	---	--	20,753	8
Materials	10,510	11	3,795	3	3,808	13	---	--	18,113	7
Program Devel.	9,225	10	304	*	3,822	14	---	--	13,351	5
Equipment	1,000	1	675	1	---	--	---	--	1,675	1
Other	750	1	790	1	36	*	380	11	1,956	1
Total	$91,459	100	$143,205	100	$28,106	100%	$3,423	100	$266,193	100

**Less that 1%*

inflated amount since it did not account for the fact that FES students, enrolled in bilingual classrooms, also receive services via the state bilingual programs. In this district, the adjusted per pupil cost would be lower if the FES students had been included in the calculation and probably in the neighborhood of $400. This district was unable to separate per pupil costs at the elementary and secondary level, but it was suggested by district personnel that the elementary costs were typically higher. The third sample district was unable to provide the research team with an estimated per pupil cost for the LES/NES students. They noted that the district did not generally compile this type of data.

None of the three case study districts was able to provide reliable estimates of the costs by grade, other than pointing out that costs at the elementary level are comparatively higher. As noted in an earlier section of this chapter, the finance study was substantially limited by the absence of expenditure data. In addition, the districts generally "pooled" their state and local funds, making it quite difficult to trace these funds down to the classroom and the grade.

In terms of the factors which contributed to differences in the cost of providing services to LES/NES students, the surveyed districts were able to point to several key elements. More specifically, the districts noted the following as contributing to the added and/or differential cost of providing services to LES/NES students: differences in teachers' salaries, variations in instructional programs, and variations in materials and equipment used.

Differences in teachers' salaries, across schools, were cited as a frequent source of cost differences. Teachers' salaries varied according to their tenure, credentials, and contracts. In one district, teachers assigned to a Lau desegregated school received differential pay, which represented an additional 10% in salary costs. Thus their salary costs to the district would have been reported as higher in contrast to bilingual teachers, for example, in a school not designated as a part of the Lau plan. Although these salary differences represented real cost variations, they were not necessarily attributable to the nature or scope of the bilingual program or other instructional services for the LES/NES students.

Another source of cost differential was attributed to variations across schools in the type and level of services provided to LES/NES students. Individual learning programs, for example, generally cost a district less than a full bilingual program in terms of expenditures in instructional personnel, testing, instructional materials, and equipment. This may not hold true in the case of all ILPs. In some instances the associated costs were comparable to other types of services when calculated in terms of the cost per pupil, due primarily to the assignment of an aide to work with individuals or small groups.

Similarly, the districts noted that there were variations in the materials and equipment used across the schools serving LES/NES students. Variations in costs may arise due to the type of curricula employed, instructional materials purchased, audio visual equipment required, and related types of factors. The districts and schools surveyed clearly agreed that the newer programs incurred higher costs in such items as the purchase of new equipment, staff development expenses, and materials acquisition. None of the districts surveyed reported any recent experiences with newer programs. It was likewise noted that in the lower grades the teachers generally required more equipment and materials for instruction. These consequently contributed to higher costs at the elementary level.

The per pupil cost estimates obtained from the sample districts represented the total cost of providing instruction to LES/NES students and combined local, state, and federal funds. Development Associates also attempted to calculate the excess costs of providing instructional services to LES/NES students on the basis of the EIA LES/NES allocations. That is to say, the excess costs representing those expenditures above and beyond the district's base program incurred in serving LES/NES students.

Under the EIA formula, the standard dollar amounts for LES/NES students represented the excess cost services which LES/NES pupils in a district, whether or not eligible for compensatory education, must receive. In the three districts surveyed as part of the finance substudy, the excess costs averaged $225, and ranged from a high of $293 to a low of $180. It must be noted that the differences in the excess cost services across the three sample districts were essentially a function of the EIA formula which took into account factors such as LES/NES enrollment, indirect costs, centralized services, and security in computing the standard dollar amounts. Thus, these differences were not attributable to variations in instructional strategies, materials, or teaching personnel.

Summary, Recommendations, and Policy Issues

Development Associates examined the financial resources supporting the provision of instructional services to LES/NES students in California as a substudy of the larger research project. The study focused on three selected districts which were purposively chosen on the basis of their geographic location, student enrollment, LES/NES student enrollment, and the variety of funding sources used to provide services to the LES/NES students.

The finance study was guided by five study questions which provided the framework for the data collection and analysis. These study questions dealt with the types of funding sources utilized by the districts to support LES/NES services, and the relationship of these funds to the identified needs of the LES/NES students in each district. Attention was also given to the effects of changes in state funding practices, such as Proposition 13 and the conversion of state categorical programs to the EIA, on district programs for LES/NES pupils. The processes used by the districts in allocating financial resources to the schools were also described. Finally, the finance substudy examined the utilization of state and federal funds at the district and school level, as well as those factors which appeared to contribute to differential costs in serving LES/NES students.

Several limitations were encountered by Development Associates in carrying out this facet of the research. The most important problem was the pronounced absence of district data on expenditures for services to LES/NES students. Moreover, the quality of the available financial data in the sample districts varied considerably. Consequently, Development Associates was limited in being able to trace specific funds to discrete school programs and classroom practices. In spite of some of these technical limitations, the districts and schools surveyed were generally cooperative and did provide the research team with important opinions and insights about the financing of services to LES/NES students and the problems attendant to operating these programs.

Generally the surveyed district and school personnel deemed the state funding of LES/NES services to be fairly adequate. Most indicated that without the state funds the instructional services to these students would be quite low and possibly not provided at all. The designation of specific EIA funds for LES/NES services was viewed as especially significant in ensuring that bilingual programs, and other services, were in fact delivered.

The continuous influx of new LES/NES students throughout the academic year posed serious financial and instructional problems for two of the three districts surveyed by Development Associates. These districts reported that the funds originally allocated to the schools for LES/NES services were inadequate to serve the large number of new eligible students. Though school budgets could be revised, the actual receipt of funds to the school was a slow process, and often too late. As a result of this situation, one district noted that many new NES students had to be placed in regular classrooms.

State and federal support for bilingual programs essentially cushioned the direct impact of Proposition 13 on these services. However, most district officials viewed Proposition 13 as having substantial long term effects on the extent and quality of services provided to LES/NES students. The dramatic changes in the state school financing system produced by Proposition 13 and the reductions in local revenues for districts, according to the district officials interviewed, meant that LES/NES programs would eventually be competing with other programs and priorities for limited financial resources.

State categorical funding for LES/NES services was shifted to the Economic Impact Aid mechanism in 1978-79 and made a part of the consolidated application process. Districts generally considered the change to be helpful in combining the various state funding sources. A few problems with the new procedures were noted by districts, but for the most part the transition was relatively efficient.

The formality and definition of district procedures for allocating funds to the respective schools varied among the case study sample schools. In that sample, the larger districts tended to adopt more formal methods of involving school personnel and parents in the planning and budgeting decisions. Smaller districts relied on more informal methods. By and large decisions about school allocations were centralized and generally made at the district office level.

It was difficult for the investigators to clearly ascertain how state funds were utilized in relation to specific instructional services for LES/NES students without data on expenditures. For the most part, state funding sources such as EIA, SCE, and SIP were collectively used to defray costs for instructional personnel, educational aides, and teacher assistants for the bilingual programs. These funds also purchased specialized personnel such as Spanish language teachers and reading specialists. Lesser amounts had been allocated for instructional materials and equipment. Primarily, these funds were concentrated on obtaining teaching personnel for the programs.

Per pupil cost estimates provided by the sample districts ranged from $270 to $500. The cost at the elementary grades was reported to be higher. Districts cited differences in teachers' salaries, across schools, as one factor that contributed to differential costs in serving LES/NES students. Differences in the equipment and materials used by a program and/or school also accounted for some of these cost differences. Newer programs had start up expenses which increased their comparative cost to the districts.

The examination of the financial resources supporting instructional services to LES/NES students suggested several areas that have implications for policy makers in planning future state funding mechanisms. At the time that Development Associates conducted the study, districts were not required to maintain records on the expenditure of state LES/NES funds. Inquiries made at the Department of Education's Local Assistance Bureau, which maintains financial data on entitlements to districts, indicated that districts generally report total amounts expended to the state and are not required to provide details on the utilization of the funds. Though districts are monitored by the Department of Education, there was a significant absence of data on how state funds are in fact used in relation to specific programs and bilingual instructional activities.

> *If the Legislature and the Department of Education are interested in determining how funds are being utilized in programs for LES/NES students, provisions should be made for districts to maintain reasonable records on expenditures.*

The question of making reliable future assessments of the costs associated with bilingual education is problematic. As noted earlier, the absence of information on expenditures posed the most severe limitation. The comingling of different funding sources by districts likewise made it impossible to accurately trace the flow of funds. Finally, the variety of programs, often with few similarities among them, that have been placed under the heading of "bilingual eudcation" makes an assessment difficult.

A fundamental condition of an assessment of bilingual education costs is to devise a mechanism whereby districts maintain detailed records of how different funding sources are expended. Also, a clearer definition of what constitutes "bilingual education," and the variety of programs operated under this heading, is needed in order to reliably assess the comparative costs of different approaches as well as estimating the add-on costs of these services.

The influx of new LES/NES students during the academic year posed serious funding and programmatic problems for some districts, often resulting in very large class sizes in the bilingual programs, and in a few instances NES students having to be placed in regular classrooms. Although not a pervasive problem in all districts, the situations cited by some of the case study districts suggested a need for consideration by policy makers.

> *The present procedures for adjusting entitlements to the districts should be reviewed by policy makers. Provisions should be made for expediting additional entitlements to districts that experience a significant influx of new eligible LES/NES students to ensure that these students receive instructional services as required by state legislation.*

Respondents from the sample districts and schools did not cite any specific problems or difficulties with present state funding policies and legislation. On the whole, the state support for services to LES/NES students was seen as filling an important educational need in these communities. Some difficulties were reported with funding application procedures, but these did not suggest any need to amend present policies.

Demographic projections by state and independent organizations forecast an increase in the number of ethnic and racial minority citizens in California over the next decade, which in turn may mean a sizeable group of limited and non-English speaking children entering the public school system. The question of providing the necessary and appropriate instructional services to these students, and the financial resources for districts to provide such services, will assume paramount proportions for policy makers over the coming years.

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